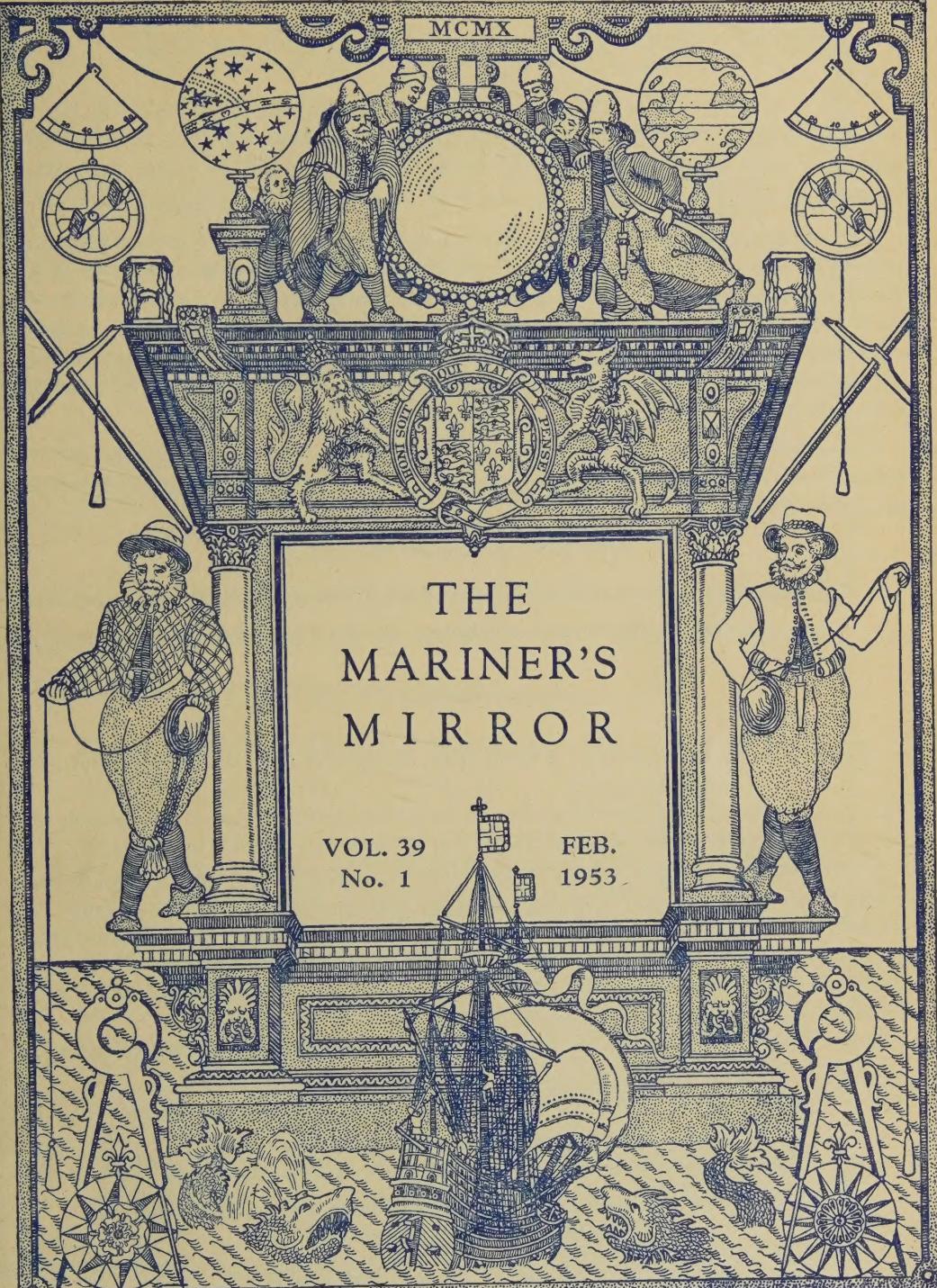


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MIRROR

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The aim of the Society being to arrive at true conclusions through free discussion, it is distinctly to be understood that the Editor is not held responsible for statements made in the *Journal*.

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Names of ships should be underlined to denote *italics*, and not written within inverted commas.

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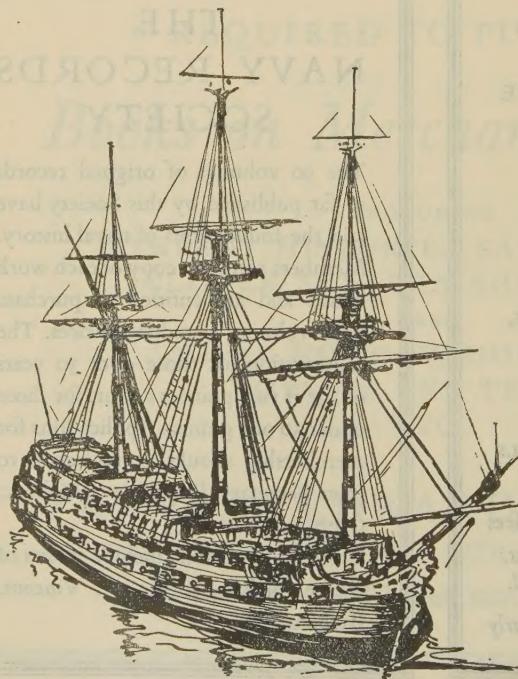
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February 1953

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EDITOR'S NOTES

OBITUARY

We record with deep regret the death of Captain Charles G. A. Lenny, Royal Navy, which occurred on 14 October 1952. He was 82. There were obituary notices in *The Times* newspaper and in *Lloyd's List* of 16 October. He was a devoted if unassuming member of the Society for Nautical Research from 1911, and was best known to us for his unremitting services as one of the honorary auditors for more than twenty years. He was among the very most senior Younger Brethren of Trinity House, having been sworn as long ago as 1906. His chief contribution to the sea services, however, must be his long and faithful duty as Secretary of the Marine Society from 1919 to 1949. It has been said that no fewer than 5000 boys were interviewed by him on their way to the fine old training-ship *Warspite*, and he used to say that the Marine Society absorbed all his professional time, interest and affections. Captain Lenny was most remarkable for his courtesy and human kindness; many small boys and their parents must have been grateful to him in times gone by when, in tears perhaps through disappointment at the candidate being turned down for admission to the ship, they had their feelings soothed by the Secretary's sympathy and helpful advice.

AN APPEAL TO CONTRIBUTORS

Part of the high cost of producing *The Mariner's Mirror* is attributable to the difficulty of dealing with badly presented 'copy'. If a contribution is untidy or badly written it means additional work for the Press reader, and to avoid too much expense it is often necessary for matter to be typed afresh by the editor, an extra infliction which is by no means welcome.

Contributions to the *Journal* consist of Articles, Notes, Queries, Answers and Reviews. There is seldom cause to complain of the manner in which *Articles* are presented, as their authors are generally accustomed to the Press and know what is required. The same applies to Reviews, and, incidentally,

it is probably not fully realized how considerably indebted the Society is to the members who so kindly and generously write our book notices for us, with the inadequate sole reward of being able to keep the volume under review.

It is to the contributors of Notes, Queries and Answers that this appeal is addressed, as in the majority of cases the matter is sent in on any odd bit of paper, on a post-card, as a 'letter to the editor', on both sides of a sheet, or frequently too badly written to be deciphered by the reader. We therefore ask these contributors once more to study the requirements made by the editor years ago which are set out on p. 2 of the *Journal's* cover. Surely most people can borrow a typewriter or ask some friend to type out their requirements, on quarto paper, in double spacing, with a wide margin, and on one side of the paper only.



THE DEVELOPMENT OF SIGNALLING IN THE ROYAL NAVY

By Captain L. E. Holland, R.N.¹

IN early days the customary method of communication at sea was by word of mouth; and from the fourteenth century it was the usual routine for ships to close the admiral before dark in order to receive his directions for the night. Instructions of about 1338 are to be found in the *Black Book of the Admiralty*, which are consistent with this system, and provide only two real signals: one to call officers on board, and the other to notify the presence of the enemy.

So long as tactics remained in a backward and unprogressive state, there was no apparent need to make any improvement in signalling. But during the First Dutch War (1652-4) there was a definite advance, more especially after the battle of the Ness, when orders for the 'Line Ahead' formation were issued over the signatures of Blake, Deane and Monck.² These may be regarded as the first foundation of the 'Fighting Instructions' and of a system of signalling which remained in force for one hundred and forty years.

The Commonwealth tactical orders were not (as with so much else) rendered nugatory at the Restoration. On the contrary, the new Lord High Admiral, James Duke of York, accepted them as a basis for improvement and did his utmost to foster their development. At the time of the Second Dutch War (1665) and of the Third (1673), he issued new editions of the code; and it appears probable that the second of these two was the first English set to appear in print.³

That some individual credit is due to the Duke of York himself is implied in a book on signals written in 1808 by a Colonel Macdonald,⁴ who says: 'The French, unquestionably a brave and ingenious people, have claimed what only belongs to the inventive talent of the Duke of York.... It is unquestionable that this volatile nation availed themselves of James's residence amongst them to improve their slender knowledge of this subject.'

¹ Afterwards Vice-Admiral L. E. Holland, C.B.

² N.R.S., Vol. xxix, pp. 99-104, 'Instructions for the better ordering of the fleet in fighting', dated 29 March 1653.

³ Royal United Service Institution, Naval Manuscripts 104.

⁴ Admiralty Library, Ec. 37.

In support of this view it may be said that the Instructions issued by the Comte de Tourville in 1689, at the outset of the English Succession War,¹ although they may be better arranged than the English Instructions of 1673, show no advance in regard either to tactical thought or to signalling; whereas those issued by the same Commander-in-Chief in 1693² prove that, between the battle of Bantry Bay and the battle of Barfleur, the French Navy had made rapid progress, that is to say, while the ex-King James with his vast experience was their ally and their guest.

The basis of the English system was the relationship of the message to the position at which the flag conveying it appeared. More than one meaning could thus attach to the same flag; indeed, its usefulness was restricted only by the points of visibility at which it could be displayed.

There was, therefore, a natural economy in flag design. The earliest 'Instructions' (properly so called), viz., those of Blake, Deane and Monck, made use of only three flags and one pendant; the red flag being employed in three different positions. Twenty years afterwards the requirements of flag signalling were met by no more than nine flags and one pendant in the Duke of York's second and final revision.² Of this royal code the Admiralty Library possesses an exceedingly fine manuscript copy, probably executed some years later than the printed version. In this manuscript the colours are illustrated in the margin, and here we find *four* additional flags. Eighteen years later, when Edward Russell took command of the Channel to reverse the verdict of Beachy Head, he introduced, yet again, four additional flags of his own; but when he did so, he discarded three out of the four which appear in the manuscript version of the code of 1673.³

At the beginning of the Spanish Succession War Sir George Rooke issued (1703) a revision of Russell's instructions of 1691. This publication⁴ remained the standard authority for the next ninety years; new orders being introduced from time to time in the form of 'Additional Instructions'.

The National Maritime Museum possesses a very interesting manuscript book which may well be the earliest English signal book proper in existence. It shows the flags hoisted in their correct positions on silhouettes of ships, the corresponding meaning being noted underneath. The date at which the book was made is not stated; but it depicts the signals used in the year 1711, including additional directional chasing signals introduced by Admiral Norris in 1710.

¹ Holland Collection, National Maritime Museum.

² 1673.

³ Economy in flag design and the sparing resort to new devices lend assistance to-day in research work. For the flags in use at any period facilitate the identification of Instructions in print and manuscript.

⁴ R.U.S.I., N.M. 80, c/3.

At some date between October 1714 and April 1717 a pocket signal book was published by Jonathan Greenwood¹ 'not with any design of derogating from the value and usefulness of the printed instructions, this being an exact copy of them'. It follows the general scheme of the manuscript book referred to above but is less comprehensive; for example, the manuscript book provides for 134 day signals as compared with 98 in Greenwood's pocket-book.

The next development was another private venture, which took again the form of a pocket signal book, but contained also a good deal of miscellaneous information on other subjects. This book,² published by John Millan, is commonly assigned to 1746; but as it makes reference (p. 20) to the year 1748, it can hardly have been printed before that date. This book is the first known English publication to classify signals under the heading of the various flags; a practice which had been adopted by the French navy before the end of the seventeenth century, as is evident from a book of de Tourville's signals arranged in this way.³ A special point of interest in Millan's book is that, in the 'Authority' column, the editor cites Jonathan Greenwood as precedent for three signals; which suggests that his predecessor's publication must, at the close of the Austrian Succession War, have been in very common use.

The thirty years which followed the publication of Millan's book witnessed considerable activity in the production of Additional Instructions. As each new Instruction, requiring a signal, necessitated the introduction of a new flag or some extension in the use of an existing flag, the machinery for signalling became increasingly cumbersome. In the Duke of York's final revision, as already shown, all requirements were met by nine flags and a pendant; but in 1782, in order to put Rodney's Instructions into effect, resort was had to no fewer than forty flags and seven pendants. This expansion resulted in departures from good design, as an examination of the flags employed by Rodney will quickly testify; more particularly those in which red and blue are found in combination.

A revolution in signalling methods was inaugurated when Lord Howe assumed command of the North American station in 1776. In July of that year he issued from H.M.S. *Eagle* at Sandy Hook a Signal Book in an entirely new form.⁴ He reduced the total number of flags to twenty-one. Many of these were of new design; and in this respect he showed a strong partiality for two or three horizontal stripes. Then, under these twenty-one

¹ Ad. Lib., Ec. 1; N.M.M., Sp. 4; R.U.S.I., N.M. 8.

² Ad. Lib., Ec. 2; N.M.M., Sp. 6; R.U.S.I., N.M. 14.

³ Holland Collection.

⁴ Ad. Lib., Ec. 108; R.U.S.I., N.M. 56.

flags he grouped all the necessary Instructions without particular regard to the flag-designs with which they had been previously associated.

The effect of this departure from accepted usage, this attempt to simplify and classify its contents, put the Signal Book on a new footing. It became recognized authority; and, to make it more complete, Lord Howe supplemented it with a book of Instructions describing how the more complicated manoeuvres were to be performed.

The actual material in Lord Howe's Signal Book and its companion volume may not show any startling advance over contemporary thought. But by a radical alteration of method Lord Howe liberated himself from the rigidity of the 'Fighting' Instructions, and at the same time supplied the machinery for expanding the signal code as circumstances might require.

Lord Howe's method of codification was to number each page of his Signal Book and to number each signal appearing on each page. Thus any particular signal could be conveniently referred to by quoting its own number and the number of the page on which it appeared. To render his code manageable, Lord Howe relieved it by extracting the signals made by private ships and showing them separately, and by omitting altogether any of the old Instructions which he considered that time had rendered obsolete. At the beginning of the book is an Instruction which reads as follows: 'All the Signals contained in the General printed signals, which are likely to be needed on the present occasion, being provided for in this Signal Book: the signals (as appointed in the General printed book) will only be made either in conformity to the Practice of some senior officer present, or when in company for the time being with other ships not of the fleet under the Admiral's command and unprovided with these particular signals.'

Lord Howe's system may have been continued by his successor Sir George Collier, whose personal copy of the Howe Signal Book is in the Holland Collection. But the next two admirals commanding in chief on this station, John Byron and Marriot Arbuthnot, reverted to the older system of issuing Additional Instructions;¹ those of Arbuthnot being particularly elaborate.

Lord Howe's work, however, was not lost sight of. It had been noted by two very keen signal reformers, Captain Kempenfelt and Sir Charles Knowles. Knowles has left behind much evidence of his work in this direction.² In 1778, when only a lieutenant, he produced a book,³ which included the 'Numerary Square Table' principle; and this, it is known, he showed to Lord Howe.

¹ R.U.S.I., N.M. 92, c/19, c/25.

² Ad. Lib., Ec. 46 and 46a; R.U.S.I., N.M. 102.

³ Holland Collection.

Flags used in various Numerary

1 2 3 4 5

Sir C. Knowles 1778					
Kempenfelt 1780					
Dickson 1780					
Kempenfelt 1782					
Digby 1782					
Howe 1790 and 1793					
Howe 1790 as used in Mediterranean 1797					
Admiralty Book 1799					
1803 Change of Flags					
Admiralty Book 1808					
1811 Change of Flags					
Popham 1812					
Admiralty Book 1816					

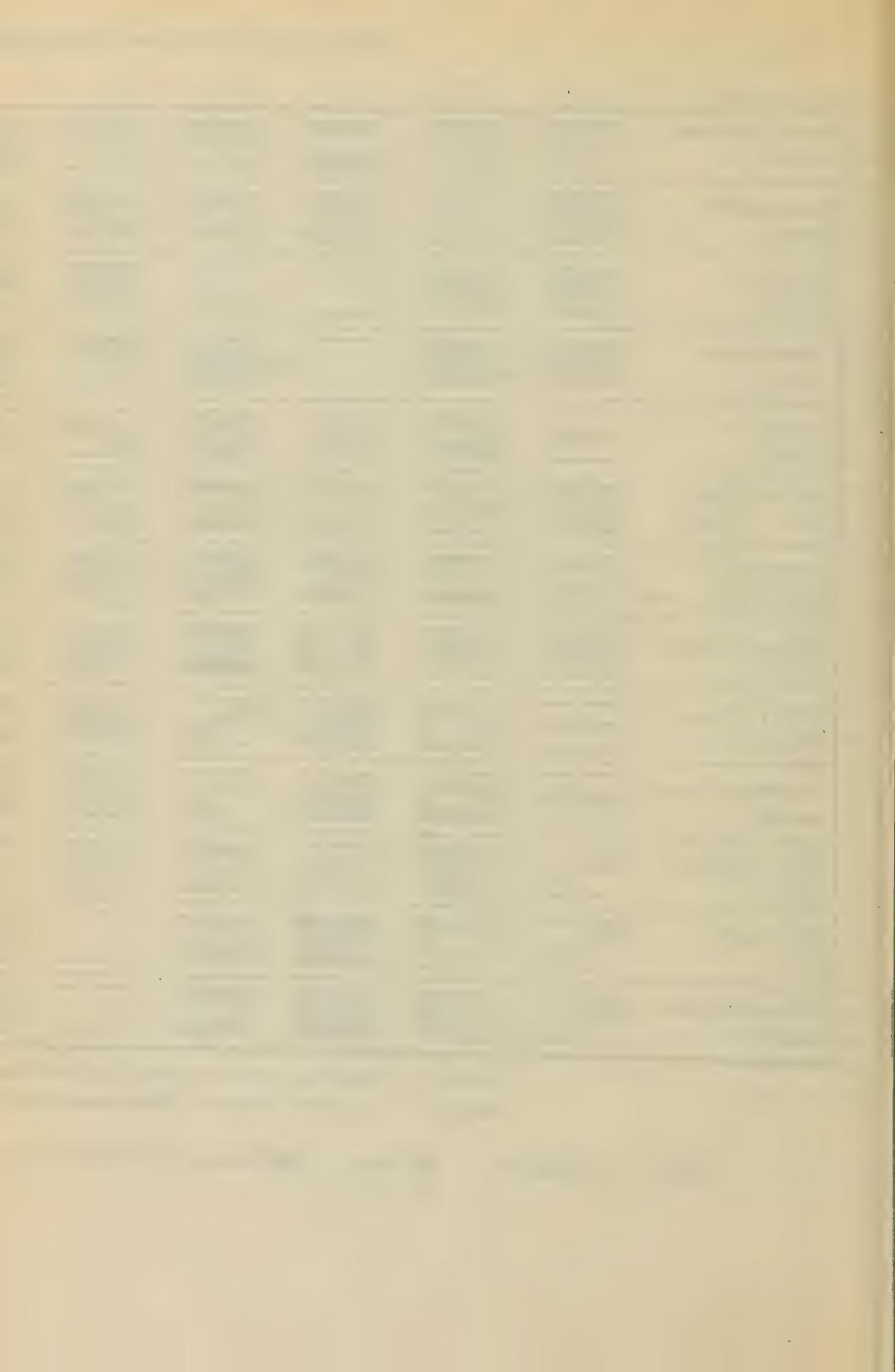
Note A — This flag was reversed in the Hom
Note B — In some books of the period this fl

Key to Colours

Red

Blue

Yellow



Kempenfelt, as First Captain to three successive Commanders-in-Chief of the Channel Fleet, was in a good position to carry on the work of reform. It is certain from his correspondence with Sir Charles Middleton (afterwards Lord Barham)¹ and from a letter from Lord Howe to his late flag-captain, Sir Roger Curtis,² that Kempenfelt had access to Lord Howe's Signal Book. In fact, many of Kempenfelt's Instructions are in the same words as those used by Lord Howe.

The date of issue of the first Kempenfelt code³ to the Channel Fleet cannot be exactly determined. The order book of H.M.S. *Pluto*⁴ implies that the old system was still in force when that ship left the fleet in November 1779; and there is evidence pointing to the fact that the book was issued before the death of Sir Charles Hardy, which occurred in May 1780.⁵ For convenience of reference perhaps this book may be not improperly designated 'Kempenfelt's 1780 Code'. It was on the same lines as Lord Howe's book of 1776; but included the following new features:

- (a) The signals were numbered consecutively throughout the book.
- (b) Triangular flags were introduced as distinguishing flags for squadrons.
- (c) Complete Compass and Horary tables were included.
- (d) A Numerary Square Table found a place.

The first and last of these features register a notable advance, and show a gradual trend towards the Numerary System. This, however, cannot in any sense be regarded as Kempenfelt's invention; for it was expounded many years previously by the famous Frenchman, Captain Mahé de la Bourdonnais, and may with strong probability be regarded as of Spanish origin. In the service of Great Britain the method had already been tested in 1778 by Sir Charles Knowles; and in the R.U.S.I. Library there is an interesting manuscript, dated 7 March 1780, and written by Captain W. Dickson on board H.M.S. *Greyhound* off Salines, which describes not only the Numerary Square Table, but the numerary method of signalling, properly so called.⁶

It is interesting to note that, as late as 17 October 1779, Kempenfelt himself does not appear to have been convinced that a numerary system provided the best solution of the problems confronting him. Replying on that date to Sir Charles Middleton, he remarks, 'Signals pointed out by numbers, and according to that method observed in these you (have) sent me, I have been long acquainted with';⁷ and he then goes on to advance the

¹ N.R.S., Vol. xxxii, p. 341.

² Barrow, *Life of Howe*, p. 142.

³ R.U.S.I., N.M. 85, c/55.

⁴ Holland Collection.

⁵ Barrow, *op. cit.* p. 151.

⁶ R.U.S.I., N.M. 92, c/21.

⁷ N.R.S., Vol. xxxii, p. 301.

following objections. The numerary system involved the simultaneous use of three flags, whereas the older system called for only one at a time. This single flag was as often as not self-explanatory; whereas a three-flag hoist assumed the faculty of distinguishing one flag from another; and this introduced a very real difficulty, hitherto unknown. In any case it would not be easy to detect the flag hoisted at the mizzen topmasthead.¹ Kempenfelt concluded with an expression of his preference for the French two-flag system as used by Comte D'Orvilliers. On the other hand, Barrow refers to Kempenfelt as being 'one of the few officers that had taken up Lord Howe's plan of numeral signals'.²

A second edition of Kempenfelt's code³ was issued before February 1781.⁴ This did not differ materially from the earlier edition except that certain of the flags were changed, in order to improve their distinctness. Two flags, which previously had three horizontal stripes, received vertical stripes instead; a yellow and red flag was changed to blue and yellow, conformably with Kempenfelt's expressed approval of the blue-and-yellow combination; and two pendants, which hitherto had been chequered, were altered to horizontal stripes.

Admiral Barrington's copy of this book, with its companion volume of Instructions, has recently been found among the family papers of Viscount Barrington. It is improbable that this edition had been approved for issue when the admiral hauled down his flag in September 1780. For that reason, it is much more likely that this recent discovery is the copy used by him when he next went afloat; namely, in April 1782.⁵

When, somewhat later in the same month, Lord Howe hoisted his flag in the Channel Fleet, he introduced a new signal code. That this was done before 9 July is evident from Barrow's reference to the bad handling of the fleet in spite of all the labour which Howe had expended in completing a code of naval signals.⁶ That Howe on this occasion used his own system receives confirmation from Captain John Jervis, who, in September 1782, expressed himself in favour of day fighting on the ground that 'the execution of any evolution they attempted would be materially aided by the admirable code of day signals which his Lordship had then lately introduced'.⁷

¹ This refers to the system of showing the flags comprising the hoist at different mastheads; as employed by Captain Dickson, *op. cit.*, and described in Kempenfelt's instructions for the use of the Numerary Table.

² *Life of Howe*, p. 141.

³ R.U.S.I., N.M. 101, c/44A. This particular copy was issued on 11 February, 1781.

⁴ N.R.S., Vol. xxxii, p. 337.

⁵ This is consistent with the remarks on pp. 42, 43 and 136 of N.R.S., Vol. xxxv.

⁶ *Life of Howe*, p. 129.

⁷ *Ibid.* p. 146.

It seems to have been customary for flag officers to bring with them to their command printed copies of the code which they intended to employ. Rodney certainly issued an up-to-date edition of the General and Additional Instructions when he resumed command of the West Indies station in 1782.¹ Presumably such books were, as a rule, printed in England, possibly at the expense of the Admiralty. There is, however, in the Admiralty Library one example of a signal book which, at a somewhat later date (perhaps c. 1814), was printed on board H.M.S. *Tonnant*, on the North American station.²

A close study of the subject prevents me from endorsing the argument advanced by Sir Julian Corbett to support his identification of Howe's 1782 Signal Book.³ The book identified by Sir Julian uses the French 16² table; fog signals are arranged on a squared table principle; night signals are numerary; the method of signalling the 'Parole' words is French; and provision is made for two 10² Numerary tables. Now all these features are known to be Kempenfelt's preferences;⁴ and, in Admiral Page's manuscript copy of the book,⁵ that officer remarks that the service always regarded it as 'the compilation and much of the invention of the gallant and most noble Admiral, Richard Kempenfelt'. He goes on to say that its use had been retarded by his untimely death. From which it can be inferred that it was not in general use before August 1782.

Internal evidence strengthens the links connecting this book with Kempenfelt; for the flags employed resemble those of his code of 1781; while use is made of the triangular flags which appear in his codes of 1781 and 1780.

This is the positive side. The negative argument is even stronger. The numerary night signals, which feature in the book, do not reappear until the Admiralty book of 1799. Now if Howe had made use of this system in 1782, we should certainly expect to find it in his book of 1790. But in his 1790 book he makes use of night signals on the plan of those in his book of 1776.

I shall therefore refer to this book as 'Kempenfelt's 1782 code'. It seems possible that it is to this book that he refers in his letter of 11 March 1782, to Sir Charles Middleton⁶ in which he says, 'I have sent you observations upon the night signals in the new signal book, which shows (the) advantage over the old.' In his two earlier editions Kempenfelt, from motives of policy, had utilized Lord Howe's method of signalling by night

¹ R.U.S.I., N.M. 94.

² Ad. Lib., Ec. 120.

³ Viz., Ad. Lib., Ec. 44, 114, R.U.S.I., N.M. 54. For Sir Julian Corbett's arguments, see N.R.S., Vol. xxix, pp. 236-7, and N.R.S., Vol. xxxv, pp. 49-51; incidentally it may be mentioned that the former of these arguments is discounted by the fact that all the signals mentioned occur in Kempenfelt's codes of 1780-81.

⁴ N.R.S., Vol. xxxii, pp. 301, 341, 343.

⁵ R.U.S.I., N.M. 54.

⁶ N.R.S., Vol. xxxii, p. 365.

although he considered it to be 'most defective'.¹ It is reasonable, therefore, to suppose that he may have given the book (here mentioned) a trial when he had exercised his first independent command in November 1781; and this inference would agree with the remark made by Admiral Page, inside the cover of the manuscript copy in the R.U.S.I.,² that it had been compiled by Admiral Kempenfelt in 1781. Recognition that this book was on trial may have been the reason why Lord Howe included the following remark when he gave Kempenfelt his orders for the command of a detached squadron on 30 April 1782: 'While you remain in this service you will establish such signals and instructions for the government of the ships under your orders as you may think fit.'³

Another version, recently discovered in printed form, is much more likely to be that used by Howe in 1782.⁴ This is an extension of his 1776 code; and the Admiralty copy (MS.) is labelled on the back 'Lord Howe's Signals, 1782'. The signals are numbered consecutively throughout the book; but that this arrangement was an afterthought is demonstrated by the companion book of Instructions, in which the original disposition of 'page and number' has been altered to the same numerical arrangement, in order to correspond.

The flags employed are those of Howe's 1776 code except that black is substituted for blue wherever that colour is found contiguous to red.

The book does not contain a numerary table, and this omission somewhat discounts the claim put forward on behalf of Howe as the inventor of this device in the passage already quoted from Barrow.⁵ On the other hand, it attunes itself to Kempenfelt's practice at this date in regard both to the use of triangular flags and to the signalling of all compass points and hours. In these respects, however, the methods employed, while they correspond with those eventually used by Howe in 1790, are different from those appearing in the Kempenfelt codes. This is true also of the colours of the triangular flags, which depart from the Kempenfelt use, though they agree with the scheme appearing in Howe's later compilations.

Another clue to the date of this book is the provision for hoisting 'French, Spanish and *Dutch* colours'. Between the years 1776 and 1790 the Dutch were in arms against us only from December 1780, to the peace of Versailles in 1783.⁶

1 N.R.S. Vol. xxxii, p. 341. 2 R.U.S.I., N.M. 54. 3 Admiralty Secretary: In Letters, 97.

4 Printed copy in possession of Commander H. P. Mead, R.N.; MS. copy in Ad. Lib., Ec. 129. 5 *Op. cit.* p. 141.

6 In Commander Mead's printed copy of this book the more important battle manoeuvres are inserted in manuscript by hand. This does not necessarily mean that they were added at a later date. The practice was a common one with Lord Howe and was adopted in order to safeguard the secrecy of his tactics.

An outstanding and important feature of this book is Signal No. 75, which provides for Howe's characteristic manoeuvre of 'Breaking the Enemy's Line at All Points'. If, therefore, as seems most probable, this book was really issued in 1782, it carries back twelve years the origin of the winning gambit which we associate with the Glorious First of June.

Meanwhile, in the West Indies, Rodney steadfastly adhered to the old-fashioned methods of signalling, and used the General and Additional Instructions. Admiral Pigot, however, his successor on this station, has left behind him a book which registers the advance made elsewhere in numbering the signals consecutively.¹ On the North American station Admiral Digby, on 5 October 1782, issued a book which embodied many of the contemporary improvements and was apparently modelled on the Kempenfelt codes.²

There is little doubt that Captain Leveson-Gower was also one of the officers actively interested in the development of signalling between 1783 and 1790. This officer had been First Captain to Lord Howe in 1782, and in the following year joined the Board of Admiralty. He went to sea on three occasions during his period of service on the Board, in 1785, 1787 and 1788; and a copy of the signal book which he used on the latter occasion is in the Admiralty Library.³ In 1790 he again served as First Captain to Lord Howe; and it is a fair assumption to suppose that the fruit of his experience was embodied in Lord Howe's book of that year.

The next outstanding event in the history of signalling is the adoption of 'The Numerary System', properly so called; and this makes its first appearance in the book issued by Lord Howe when, in 1790, he resumed command of the Channel Fleet. This epoch-making book⁴ may be distinguished from a later edition⁵ published by Lord Howe when he again took command in 1793, by the words 'New Arrangement' under the title.

It would seem that the earlier edition proved to be unhandy in use; and the superiority of the 1793 edition lies mainly in improved arrangement, the signals being grouped alphabetically under appropriate headings. The same motive, which led to the issue of the second edition, induced John McArthur to make an indexed arrangement of the 1790 book for the use of Lord Hood at the time of the 'Russian Armament' in the summer of 1791.⁶

The 1790 edition continued in use in the Mediterranean Fleet until 1799. But on this station, at some period after February 1793, and before

¹ R.U.S.I., N.M. 18a.

² R.U.S.I., N.M. 76, c/72.

³ Ad. Lib., Ec. 5.

⁴ Ad. Lib., Ec. 113 & 113a; N.M.M., Sp. 17, 20.

⁵ Ad. Lib., Ec. 105, 106; N.M.M., Sp. 26; R.U.S.I., N.M. 52.

⁶ Ad. Lib., Ec. 132, 133.

February 1797, the numeral flags were given a new allocation; and it was in this altered form that it was used at the battle of St Vincent and at the battle of the Nile.

The 1793 edition was issued to the fleet under Lord Howe and was in use at the Glorious First of June.

In the year 1799 the Board of Admiralty issued its first official printed Signal Book based on the new principles.¹ The volume may be classified or described as a development of Howe's 1790 and 1793 books, and the numeral flags are much the same. The volume, which is well indexed and contains a list of the Navy, has the Supplementary Instructions bound up with it. Night Signals, based on the French numeral system favoured by Kempenfelt, were published as a separate volume.

The next important development took the shape of a Vocabulary book to supplement the more ordinary book of signals. The credit for progress in this direction belongs in the main to Sir Home Popham, who produced his first book (1800) in order to facilitate the conveyance of messages from H.M.S. *Romney*, the ship in which he was then serving, to Admiral Dickson off Elsinore.² The idea was not really a new one, as a Vocabulary giving 1051 signals is to be found in a book entitled *Essay on Signals by an Officer of the British Navy*,³ which bears a date twelve years earlier. The author of this *Essay* tells us that he had, in the course of many years' service, 'frequent opportunities of remarking the egregious mistakes and dangerous disappointments that resulted from the imperfection of signals'.

Unlike the work of this obscure pioneer, Popham's Telegraphic Code sprang rapidly into favour. The first edition containing nearly a thousand words was in 1803 supplemented by a second part containing about the same number of less useful words, and a third part containing nearly a thousand sentences.⁴ Popham made use of the numeral flags in the Signal Book of 1799 with the addition of a ball or a pendant to indicate the thousands. The only additional requirements involved were a 'Preparative' or 'Telegraph' flag and a 'Message Finished' flag. It was by this code that Nelson's famous signal at Trafalgar was made; and it is interesting to reflect that, only six years earlier, if an admiral had wanted to make such a signal, he would have been obliged either to hail the ship or else to send a boat.

In 1803 the Signal Book of 1799 became compromised, because a manuscript copy on board the schooner *Redbridge* fell into the hands of the French. Nelson dealt with the situation, thus created, by changing the

1 Ad. Lib., Ec. 53; N.M.M., Sp. 31, 32, 35, 36; R.U.S.I., N.M. 55, 58.

2 Ad. Lib., Ec. 61, Introduction.

3 R.U.S.I., 26/72.

4 Ad. Lib., Ec. 61; R.U.S.I., N.M. 75.

appropriation of the numeral flags and so informed the Admiralty. On 4 November of the same year their Lordships accordingly directed every Commander-in-Chief to change flags in compliance with an enclosure sent with their letter; and at the same time issued stringent injunctions against the improper practice of making manuscript copies of the Signal Book. In the Mediterranean the flags were changed to comply with the order on 16 January 1804.¹ When the numeral table was changed, the individual flags continued to bear their previous single flag meanings.

An interesting consequence of this change is that, to this day, uncertainty exists as to whether in Lord Nelson's famous Trafalgar signal the No. 4 flag, which is red and white quarterly, should be hoisted with the red, or the white canton uppermost to the mast. Without doubt, the approved procedure, when the 1799 book was first issued, was for the red canton to be uppermost; but the various books which illustrate the change ordered in 1803 seem to be quite impartial as to which way this flag is depicted. No satisfactory solution has yet been found to explain this difference; but it seems likely that some squadrons reversed this flag at the same time as the flags were renumbered.

The best evidence in regard to the procedure at Trafalgar comes from a signal book in the possession of Mrs Giffard. This book was issued from the Admiralty after the 1803 change and is initialled by Captain Sir Thomas Masterman Hardy. It is believed to have been used on board H.M.S. *Victory* during the battle and it shows the flag with the red canton uppermost.

There were at this time many other individuals whose interest in the development of signalling was unremitting and whose names deserve commemoration. Mention has already been made of Sir Charles Knowles who produced a book with a numerary table as early as 1778.² The bibliography of his books may be given in his own words: 'These signals were written in 1778, as an idea altered and published, then altered again in 1780, afterwards arranged differently in 1787, and finally in 1794; but not printed at Sir C. Knowles' expense until 1798, when they were sent to the Admiralty, but they were not published, although copies have been given to sea officers.' Available specimens of the final edition show that Sir Charles was well versed in the subject and apparently worked quite independently.³

Knowles's first edition (1778) is the earliest known English example to make use of the Numerary Squared Table. The book is arranged in an

¹ The possibility that this change would become necessary had not been overlooked; and a signal for putting it into effect existed in the 1799 Signal Book.

² Holland Collection.

³ Ad. Lib., Ec. 46; R.U.S.I., N.M. 102.

unusual way; the day signals being divided into eight classes and the night signals into five. By this disposition Knowles was able to limit signals to fifty in each class; the class in question being shown by a distinctive flag hoisted at the jack staff, ensign staff, or mizzen peak. The book provides also for making night and fog signals in a purely numerary manner; and in this respect it is in advance of current English practice.

On 2 April 1790, John McArthur, then purser of H.M.S. *St Margarita*, but later secretary to Lord Hood, submitted a Signal Book to the Duke of Clarence.¹ In his foreword he tells us that 'Signals have been his special care and pursuit of his leisure moments since the year 1782 when I first digested a compendium on a plan not so mature as the present and presented it to Admiral Digby, Commander in Chief in North America'.

McArthur, in his Memorial of Service, prefers a claim to the authorship of the numerary system as finally adopted by Lord Howe and avers that in 1782 he presented a numerary code to Admiral Digby. It must be admitted that the book issued on 5 October 1782, by Admiral Digby² certainly does contain numerary tables; but it also contains Kempenfelt's triangular and other flags and their presence would indicate that, for his knowledge of the numerary system, Admiral Digby was not necessarily dependent on McArthur.

McArthur's book of 1790 had four 12² tables. The same twelve flags were made use of; all of them were reversible, although they were badly selected in respect of clearness. The manner in which the flags were hoisted (normal or reversed) indicated which of the four tables was in use. One feature of the system bore the impress of practical utility. The flags (in the book) were mounted on slides so that the co-ordinates of any particular number could be easily changed, if the code should happen to be compromised. It should be added that the author makes mention of a system of coloured lights for night use, which he was subjecting to experiment.

McArthur makes many claims for the important part he played in the development of signalling. But his book was not accepted for official use; and the opinion may be hazarded that the same degree of progress would have been effected if McArthur had never existed.

J. Goodhew, as a reformer, falls into quite a different category. If the view at present held of him may be trusted, he made his mark on the progress of signalling by being the first to advocate the use of flags in an alphabetical sense. His first book,³ dedicated to the First Lord of the Admiralty in 1806, employed twelve flags. If of somewhat unscientific, they were of novel, design; and, being all invertible, they enabled him to make twenty-four letters of the alphabet.

¹ Ad. Lib., Ec. 143

² R.U.S.I., N.M. 76, c/73.

³ Ad. Lib., Ec. 6.

From Colonel J. Macdonald's *Treatise on Telegraphic Communication* we learn that in 1806 Goodhew's system was on trial in the Channel Fleet; and about 1812 he produced a more complete code in which flags of more usual design were employed.¹ Writing on 3 August 1812, to Sir Home Popham, Captain Pulteney Malcolm remarks: 'Mr. Goodhew's scheme is the only one I have seen which will bear a comparison with yours. In some instances he has the advantage; particularly in making Admirals' signals with only two flags; never hoisting more than three flags at a time; and using the characters of the Alphabet alone—which appears to me more simple than combining them with numbers.'

W. Goddard was another inventor who submitted a Signal Book to the Admiralty. This was on 16 November 1806, when he was serving in the *Ocean* off Cadiz.² He had previously served as secretary to Admiral Sir Thomas Pasley. Goddard does not appear to put forward a claim to originality. He tells us that his work was arranged on the lines of the system used in 1795 by Admiral Sir John Laforey; and that the arrangement was, in plan, not widely dissimilar from the Third Part of Sir Home Popham's vocabulary of classified sentences.

Goddard's book is based on the numerary principle, with provision for changing the flags; the numeral flags employed being taken from the 1803 arrangement of the 1799 Code. The volume pays special attention to long-distance signals; and the method, here set forth as a special feature and, incidentally, borrowed from the French, was the method included in the 1816 edition of the official Signal Book.

Captain T. West, in 1788, published a book on the subject. This, like Goddard's, was based on the numerary system; the signals being transmitted by showing the number of the page and the number of the article.³

Reference has already been made to another publication which appeared in the same year as Captain West's, viz., *An Essay on Signals by an Officer of the British Navy*. This also was based on the numerary system, and included a Vocabulary. The period in question was indeed highly productive; and there were other codes in addition to those named; but lack of space renders it quite impossible to name them.

In the year 1808 the Admiralty issued a revised version of the official 1799 Signal Book, which nevertheless retained its predecessor's general form.⁴ Of these two books many manuscript copies survive, and the easiest way in which to identify them is by means of the first of the private signals ('To speak with the Admiral'). This is No. 311 in the 1799 edition and No. 361 in the edition of 1808.

¹ R.U.S.I., N.M. 85, c/101.

² Ad. Lib., Ec. 49.

³ Holland Collection.

⁴ Ad. Lib., Ec. 55; R.U.S.I., N.M. 51.

Sir Home Popham, continuing his work on signals, completed an extensive system in 1812,¹ using alphabetical flags, which was recommended for adoption by an Admiralty Committee sitting in that year.² In 1815, however, the question was still under review; and Admiral Raper, who had served as signal officer to Lord Howe in 1793 and 1794, states that the code, which he submitted, 'was returned to me in a few days without its having been ever taken into consideration'.³

In 1816 the Admiralty issued a new book on the lines proposed by Sir Home Popham.⁴ This work provides for fourteen letters of the alphabet and introduces nine numbered pendants. It also includes a form of semaphore, with two arms to be worked on separate uprights. The numerary night signals used in the 1799 Book are displaced by signals on a tabular system.

The arrangement of this book was somewhat inconvenient because letters and numbers were mixed up in the same hoist. This defect, not unnaturally provoked criticism, and disappeared in the next Admiralty book which was published in 1827. This latter book is in three parts; separate volumes being devoted to Vocabulary and Night signals; and provision being made for twenty-one letters.⁵ Other new features include a Geographical Table, a Military Table, and the use of the present-day form of semaphore.

Further editions were issued in 1834⁶ and 1853⁷ but without the introduction of any new features. In the edition of 1859⁸ the meanings of several flags were changed, and the numeral flags assumed the order which they retained until the end of the century. In the edition of 1868⁹ the arrangement of the General Signals was much improved, the items being grouped under appropriate headings. Speed cones made their first appearance in this book, which also introduced flashing signals. In the Vocabulary volume the signals, for code purposes, were given a number as well as a three-flag hoist. The edition of 1879,¹⁰ apart from further improvements in arrangement, was similar to that of 1868; but in 1882 a revised Vocabulary volume was issued.¹¹

The Signal Book of 1889¹² brings us to the arrangement which was in force at the beginning of the twentieth century. The first volume, which incidentally lays down a plan for dressing ship, comprised General Signals;

¹ Ad. Lib., Ec. 104; MS. draft in N.M.M., Sm. 69.

² Ad. Lib., Ec. 51, Preface.

³ Ad. Lib., Ec. 38.

⁴ Ad. Lib., Ec. 66, 67; N.M.M., Sp. 57; R.U.S.I., N.M. 49.

⁵ Ad. Lib., Ec. 68a, 69, 70.

⁶ *Ibid.* Ec. 71, 72.

⁷ *Ibid.* Ec. 73, 74, 75.

⁸ *Ibid.* Ec. 78, 80.

⁹ *Ibid.* Ec. 82, 83, 84.

¹⁰ *Ibid.* Ec. 88, 89.

¹¹ *Ibid.* Ec. 90.

¹² *Ibid.* Ec. 91, 92.

the second volume served as a Manoeuvring Signal Book with diagrams of the different movements; and the third volume remained the Vocabulary. There was no longer any need for a separate volume of Night Signals; as flashing signals had found acceptance and the Morse code was used for this purpose. Provision was made for all the letters of the alphabet; their flags and also the numbered pendants assuming an allocation which did not again change till the century ended.

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The degree to which flags can be distinguished depends upon their design. It will, therefore, be profitable to consider the opinions held on this subject by some of the officers most nearly concerned with the signalling revolution of 1778-1816.

Captain Young, who served as Rodney's flag-captain, in a letter to Sir Charles Middleton dated 31 July 1780, has left on record the following opinion: 'Chequered flags should be abolished. Quartered, halved, three-striped, striped corner ways, half up and down, and pierced, are the only ones that are properly distinguished at a distance.'¹ Kempenfelt's experience convinced him that three-striped flags were most distinct if the stripes were vertical rather than horizontal; and that chequered pendants were unsatisfactory.²

Sir Home Popham, writing in 1812, declared that extended experience had established a preference for the Dutch flag for long distance, while the French tricolour was proving itself equally good. He testifies, also, to the satisfactory results obtained by the French from white flags with a blue border and red centre, or with a red border and blue centre.³ Lord Howe showed a marked preference for two- and three-striped flags.⁴

When the necessity arose for the provision of flags to indicate letters of the alphabet, an attempt was made to introduce a number of burgees. Writing to Sir Home Popham on 4 January 1814, Sir Samuel Hood remarks: 'The flags have been selected with great circumspection. When a possibility occurs of the colours being mistaken, the shape gives sufficient distinction. The Broad Pendants or Cornettes (from their make) give great relief to the observer; the flag wafting out with every change of view, the colours are more perfectly distinguished. There certainly is not that advantage in triangular flags; they are in general difficult to discern. But in your code the colours are so few and so well varied that they cannot be mistaken.'⁵

Burgees did not, however, maintain this favourable opinion: for five,

¹ N.R.S., Vol. xxxii, p. 72.

² N.R.S., Vol. xxxii, pp. 314, 339.

³ Ad. Lib., Ec. 104.

⁴ R.U.S.I., N.M. 56.

⁵ Ad. Lib., Ec. 51.

which were used in an alphabetical sense in the Signal Book of 1816, all disappear from the Signal Book of 1827.

Hood's remark about distinctiveness of shape is of interest, as this feature was elaborated by various inventors of codes in which signals could be determined by the shape or design of the symbol employed, irrespective of colour. Such codes were designed by Captain T. West in 1788,¹ H. Cranmer Phillipps, R.N., in 1833,² and Sir Charles Ekins in 1838.³ The Admiralty copy of the last named contains the following entry: 'In the trials the symbols were unfortunately treated like flags and placed between swivels, and quite surprised the signal officer by turning round so fast that they could not be made out.'

Other authors, such as McArthur⁴ and Goodhew,⁵ made use of invertible designs, so that the number of flags carried could be restricted. This arrangement, however, was not popular, as it limited the number of combinations which could be made and was moreover a likely enough source of error.

Another ingenious expedient was to design numeral flags in such a way that their meaning was self-evident; but, so far as is known, this method was never utilized in the British navy.⁶

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From the early days of signalling it was generally recognized that the best colour combinations are red and white; blue (or black) and white; and blue (or black) and yellow. Direct evidence of the unsuitability of red and blue in combination is afforded by the fact that Lord Howe, in his 1782 Book, altered the flags of this pattern, which had appeared in his 1776 Book, into black and red; while the flags of this particular combination which Rodney employed were not repeated in later codes.⁷ Again, red and yellow seem to have been found to yield poor results; and Kempenfelt, in the second edition of his 1780 code, changed this combination into blue and yellow. Flags with white against the skyline were universally avoided.

In regard to size, Kempenfelt set on record what he considered the correct dimensions for signalling:

Big ships	Flags 15 ft. \times 27 ft.
	Pendants 9 ft. at the head, 3 ft. at the fly and 45 ft. long.
Frigates	Flags 12 ft. \times 18 ft.
	Pendants 6 ft. at the head, 2 ft. at the fly and 45 ft. long.
	Triangular flags, 14 $\frac{1}{2}$ ft. at the head and 20 $\frac{1}{2}$ ft. in length.

¹ Holland Collection.

² Ad. Lib., Ec. 100.

³ Ad. Lib., Ec. 101.

⁴ Ad. Lib., Ec. 143.

⁵ Ad. Lib., Ec. 6.

⁶ M.M., Vol. xviii, No. 4.

⁷ It is of interest to observe that this combination reappeared in the International Code of 1931.

Kempenfelt laid it down that, in general, the length of flags should be one and a half times their breadth and that pendants should not have swallow tails.

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The difficulty of distinguishing colours at a distance was realized from the earliest times; and to minimize this, it was customary for long-distance signalling to employ either sails or an ensign. Sails continued to be used in this manner until the Signal Book of 1799 was published. W. G. Perrin called this a 'quaint survival';¹ but in the absence of a better method of solving the problem, the continuance of the practice would appear to have been both sensible and sound.

The introduction of the numerary system made it possible to adopt a special long-distance code in which signals could be identified by the shape of the symbols used; and the book of 1799 provided such a code, utilizing pendants, flags and a ball, in various combinations. The 1816 book furnished a different system, using a 4^2 table, and (for symbols) flag, pendant, triangular flag and ball. This system appears in Goddard's book of 1806,² and Sir Home Popham's of 1812.³ The book of 1827 introduced another system in which flags and pendants, singly or in combination, were employed to indicate numerals; and this system became stereotyped in the Admiralty books until that of 1868.

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The earliest known method of indicating a particular ship was by hoisting a single pendant in a particular position. A reference to this procedure is made in the Duke of York's Instructions of 1673 and the practice continued in force until the close of the eighteenth century.

In 1780 Kempenfelt introduced the use of triangular flags to indicate squadrons. These had previously been, as a rule, distinguished by the coloured squadronal flags, or by the mast in which the signal was hoisted. Kempenfelt also arranged to use one of the red, white, or blue pendants with the triangular flag to indicate Divisions.

Kempenfelt's Signal Book of 1782⁴ made provision for indicating particular ships by the use of double pendants which could be hoisted where most easily seen; but, in case this procedure proved unacceptable, arrangements were also made for calling ships by single pendants in the older manner. When double pendants were employed, the superior pendant indicated the subdivision (of six ships) and the inferior pendant the position in the subdivision of the ship particularized.

From this date the use of double pendants gradually increased in favour

¹ *British Flags*, p. 173.

² Ad. Lib., Ec. 49.

³ Ad. Lib., Ec. 51.

⁴ Ad. Lib., Ec. 44, 114; R.U.S.I., N.M. 54.

as is evidenced by various Pendant Tables of the period. It was not, however, adopted in the books of 1799 and 1808, wherein official sanction is given to an elaboration of Kempenfelt's original idea; with red, white, or blue vanes, either superior or inferior to the divisional pendants to call particular ships. These books did, however, provide signals on the two-pendant principle (utilizing both pendants and vanes) for frigates and smaller ships.

The double-pendant system was officially adopted in 1816 and followed the lines laid down by Kempenfelt in his book of 1782. In this instance the superior pendant indicated a division of seven ships and the inferior pendant the position in the division of the ship particularized. Thus pendants 53 called the third ship of the Fifth Division, which was also No. 31 in the line.

In 1812 an Admiralty Committee on Signals¹ had recommended that 'a set of pendants be fixed upon and established for distinguishing signals of ships forming fleets or squadrons, and that they should not be changed as was formerly the practice in the King's Service'. The procedure adopted in 1816 does not appear to have given effect to this recommendation; and for many years pendants indicated a ship's position in the order of sailing rather than her actual identity.

Ships were also able to prove their identity by the use of coloured vanes. Vanes are described by Falconer as consisting of 'bunting spread on a wooden frame...'. In shape they were rectangular; the proportion of length to depth being much greater than in signal flags. Many of the Signal Books of the 1780-90 period give the allocation of the various vanes to particular ships. The usual procedure was to employ as many different vanes as there were ships in the largest squadron, and to repeat the same vanes at different masts for ships of the other two squadrons.² The appropriation of masts to squadrons does not appear to have been standardized. For example, on the North American station in 1781 the practice favoured the foremast for the Van Squadron, mainmast for the Centre Squadron, and mizzen for the Rear; whereas in the West Indies at the same date the Van Squadron used the mizzen, and the Rear Squadron the foremast. For visibility of the vanes from other squadrons, the latter arrangement would seem the more logical; but it was not adopted by the Signal Book of 1816. Later signal books still provided for the use of red, white or blue vanes in conjunction with the squadronal and divisional distinguishing signals; but they omit the multi-coloured variety.

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¹ Ad. Lib., Ec. 51.

² The colour of the vanes of the ships taking part in the battle of the Saints is to be seen in a picture which hangs in the smoking-room of the United Service Club.

Recognition or Private Signals fall into two groups: the long-distance signals, and the words for hailing another ship, usually known as the 'Parole'. The need for distinguishing ships at a distance has, naturally enough, been appreciated from early times; and in the Instructions of 1558¹ we find 'the one shall strike his fore sail, and a yaw, and to house it and strike it in that sort, until he do think that the same be seen unto the other, and then shall the other answer by striking of his foresail and shooting of one good piece....'

The later Fighting Instructions included an Article for this purpose, allocating separate signals for the ship to windward and the ship to leeward. The actual form of communication was not specified, but a space was left blank which could be filled in as desired. This method, however, did not allow of sufficient variation; and by 1778 much more elaborate tables were in use, providing for daily changes;² the actual signal being made by flags or sails; and at night by a combination of lights.

The Parole usually consisted of three words and the procedure conformed to the following routine:

The Hailing ship hailed	What ship is that?
The Hailed ship	Gave the First word.
The Hailing ship	Replied with the Second word.
The Hailed ship	Confirmed with the Third word.

In Kempenfelt's 1782 Book³ the French method of indicating the Parole words was adopted. A 3² Table, using flags or guns, gave one of nine key letters. This letter, in conjunction with the initial letter of the day of the week, gave one of sixty-three numbers, which in turn supplied the words of the Parole.

It was apparently Lord Howe's practice to issue his Paroles by memorandum; and no provision is made in his books or in the Admiralty book of 1799 to facilitate this type of communication. The 1816 book, however, had two pendants to be employed when indicating the Parole words selected from the Vocabulary; and, in addition, a signal enabling the Parole and Countersign to be indicated by numeral groups, which had reference to a separate list of Paroles. The special pendants disappeared from the 1827 book; while the numeral method continued in the book of 1889.

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The method employed by night in order to signal the Sailing and Fighting Instructions was to show a combination of fixed lights which were usually

¹ N.R.S., Vol. xxxv, p. 370.

² R.U.S.I., N.M. 92, c/29; N.M. 103, c/64, c/75.

³ Ad. Lib., Ec. 44; R.U.S.I., N.M. 54.

accompanied by a discharge of guns. Lord Howe effected an improvement when, in his 1776 Signal Book, he classified all the signals under the heading of the number of lights used in the signal.

Sir Charles Knowles's book of 1778¹ recommended a numerary system, whereby flares were to be used for Tens and ordinary lights for Units. But this device could never have been satisfactory, for the false flares had a habit of missing fire, and a system which required that the actual number should be counted was bound to prove unreliable.

Kempfenfelt, in his 1782 Book² and in the third edition of his 1780 code,³ adopted the French system, in which numbers 1 to 4 were indicated by lights, 5 by rockets or false flares, while 6 to 9 were the same as 1 to 4 but accompanied by false flares, etc., and guns were used for tens. A few fixed light combinations were retained for use in shadowing the enemy in addition to the numerary signals. In his 1782 book Kempfenfelt gave an alternative method, also of French origin, based on a double-square table principle and requiring the use of only one to three lights and one to three guns.

In his Signal Books of 1782,⁴ 1790,⁵ and 1793,⁶ Lord Howe retained the system of Night Signals, which he used in his book of 1776.⁷ But the Admiralty Signal Book of 1799 gave official sanction to the first of the French systems mentioned above, adding eighteen supplementary signals and employing combinations of lights (with or without false flares) 'as in the presence of the enemy it may be impracticable to make signals by firing a limited number of guns'.

The 1816 Signal Book cut away from the numerary system and reverted to the tabular system, making provision for sixty-three communications. The horizontal headings comprise 'Lights only', 'Rockets or False Flares', 'Guns', and 'Guns with Rockets or False Flares'; while the vertical headings comprise various combinations of lights; the general arrangement being such as to avoid the use of guns for the more important signals.

A new development presented itself with the trial of coloured lights. This scheme was suggested by John McArthur in 1792;⁸ but it was not until 1850 that it really took shape. In that year a code was formulated by Mitchel Thompson, Surgeon of H.M.S. *Odin*. His system was put to the test in 1853;⁹ and in the Signal Book of 1859 appeared as an Appendix with the accompanying note: 'The coloured lights are not intended as

¹ Holland Collection.

² Ad. Lib., Ec. 44; R.U.S.I., N.M. 54.

³ N.R.S., Vol. xxxv, pp. 43, 44.

⁴ In the possession of Commander H. P. Mead, R.N.; and Ad. Lib., Ec. 129.

⁵ Ad. Lib., Ec. 113, 113a.

⁶ Ad. Lib., Ec. 106; R.U.S.I., N.M. 52.

⁷ Ad. Lib., Ec. 108; R.U.S.I., N.M. 56.

⁸ Ad. Lib., Ec. 143.

⁹ Ad. Lib., Ec. 102.

a substitute for the General Night Signals; but only as an additional means of communication when the distance does not exceed two miles.'

In 1864 Commander P. H. Colomb, R.N., and Captain Frank Bolton, 12th Foot, carried out official experiments in flashing signals;¹ and in 1867 a satisfactory lamp for the purpose, known as the 'Chatham Lamp', was produced. The system thus evolved was given a place in a special Signal Book prepared for the Abyssinian Expeditionary Force in 1867.²

The Admiralty Night Book of 1870 gave official sanction to flashing signals, retained a few fixed-light signals, and omitted coloured lights. At the hour of their introduction flashing signals were limited in use to the numerals and a few signs; and if it was required to signal letters, a table of numerical equivalents was employed. The full Morse code made its appearance in the Admiralty Book of 1889, which omitted the system of coloured lights, but included instructions for use by night of the electrically illuminated semaphore.

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In time of fog the customary method of signalling has been by means of guns, due emphasis being laid on the following salutary warning: 'that the guns which you fire for signals in a fog be all fired the same side that they make no alteration in the sound'.

In his Signal Book of 1776, Lord Howe³ introduced a modification which made for improvement. He divided some of the signals into two parts; the first consisting of one or more preparative guns; the second, after a specified interval, of one or more signal guns.

Kempfenfelt, in his 1782 code,⁴ arranged Fog Signals in tabular form; the horizontal headings being one to five guns and the vertical headings one to six guns. Thus the signal 'Two guns—Interval—Three guns' could easily be found under the heading 'Two guns'; it did not, however, denote 'Signal Twenty-three', but 'Signal No. Nine'.

Lord Howe continued the method of his 1776 Book in his later versions of 1782, 1790 and 1793; and much the same method served for the official Signal Book issued by the Admiralty in 1799. It was not until 1870 that gun signals were given their natural numerical value, although Sir Charles Knowles's book contained this idea⁵ nearly a century earlier.⁶

The value of the old signal books resides mainly in the light thrown by them on contemporary tactics. The present article, however, does not deal

¹ R.U.S.I., 13/125, No. 15.

² Ad. Lib., Ec. 14.

³ Ad. Lib., Ec. 108; R.U.S.I., N.M. 56.

⁴ Ad. Lib., Ec. 44; R.U.S.I., N.M. 54.

⁵ Holland Collection.

⁶ The 1870 Signal Book provided also the means for making the newly devised flashing signals by means of sound.

with that side of the subject. It attempts only to trace the development of signalling in the Royal Navy, in such a way that students may be able to recognize and to date the various publications having 'Signals' for their subject-matter.

[For this chapter of the *Maritime Miscellany* two elaborate folding tables of coloured flags were prepared, ready for use, which, needless to say, we cannot reproduce. We have, nevertheless, adopted the one table, using hachuring in place of colours, while the other which shows all the signal flags used in the Royal Navy up to 1790, has had to be abandoned. It can be seen, however, in the National Maritime Museum library.

Vice-Admiral Lancelot E. Holland, C.B., lost his life when H.M.S. *Hood* blew up on 24 May 1941. In his will he left his collection of signal books to the National Maritime Museum, and Professor Callender considered them so important that he was instrumental in having a *leading* article about the bequest published in *The Times* newspaper on 20 September 1941. In point of fact the Holland Collection is neither extensive nor comprehensive: its value is mainly in connexion with the rare French books of the Comte de Tourville's régime, and some other scarce items which were Admiral Holland's speciality. Ed. M.M.]

BRISTOL CHANNEL PILOTAGE: HISTORICAL NOTES ON ITS ADMINISTRATION AND CRAFT

By Grahame Farr

THE early history of Bristol Channel pilotage is obscure, and until the considerable records of the Society of Merchant Venturers of Bristol have been examined, it behoves the student to publish his researches only as 'notes'. Some aspects of the service and its craft have been described frequently, but others have been neglected. The following paper, admittedly a patchwork, is an attempt to combine some research among source material with the lesser known published facts, and so provide materials towards a history of a fine service.

A tradition among Bristol pilots, so far unsupported by documentary evidence, is that the first of their number were James George Ray and James Shepherd, masters of barges employed in victualling the forts at the mouth of the Avon.¹ It goes on to say that Ray was appointed by the Mayor and Corporation for the express purpose of piloting Cabot's *Mathew* in May 1497, and that Shepherd was appointed later in the same year.²

We are on firmer ground when we state that, in 1611, control of the pilotage was delegated by the Corporation to the Society of Merchant Venturers of Bristol, and that body retained control for two and a half centuries.³ Contemporary local literature, such as the Deposition Books, contains several references to pilots, but the majority refer to those who were carried as members of ships' crews. There is one of particular interest, dated 1646, which refers to Etheldred Edwards, 'a Pilott belonginge to the port of Bristol', who was witness to the unavoidable removal of a damaged wine cask from the *Content* of Bristol in Kingroad, before the Customs had examined the cargo.⁴ The point of interest lies in the final words of the

¹ My grateful thanks are due to H. S. Watkins, retired Bristol Channel pilot, for bringing this tradition to my notice, and also for several other items incorporated in this paper, e.g. a description of the cutters and evidence on their speed. I hope that one day means will be found to publish his collection of constructional data of the *Hilda*.

² Both names have been connected with the service to the present day. One can without difficulty trace twelve Rays in the Bristol service during the nineteenth century and others were employed at other Bristol Channel ports. George Ray piloted the pioneer Atlantic steamship *Great Western* in 1837, and William Ray her larger consort, the *Great Britain*, in 1844.

³ John Latimer, *History of the Society of Merchant Venturers of the City of Bristol* (Bristol: Arrowsmith, 1903), p. 254.

⁴ H. E. Knott (Ed.), *The Deposition Books of Bristol 1643-7*, Part I (Bristol Record Society, Vol. vi, 1935), p. 171.

deposition, wherein he states he was dropped ashore at Pill. This village, on the Somerset bank of the Avon, about a mile from its mouth, is to this day the headquarters of the Bristol pilot fraternity. It was anciently called Crockerne Pill, Crockam Pill or by several other variations of a name referring to its tidal creek.

It is not clear over what area the Bristol Corporation claimed the right to appoint pilots, but the inference is that they assumed responsibility for the greater part of the Channel. At first, no doubt, the matter was not questioned owing to the obvious ascendancy of the port, but in the course of time the Channel was divided by authority of Exchequer Warrants under various 'Head Ports' for fiscal purposes, and it seems that towards the end of the eighteenth century their growing pains caused agitation for some statement of policy on pilotage. Two of the more important Bristol Harbour Acts, 11 and 12 William III, c. 23 (1756), and 43 George III, c. 140 (1803), defined the pilotage area by stating simply that the Mayor, Aldermen and Common Council were to 'appoint any Person or Persons duly qualified for that Purpose to be and officiate as a Pilot or Pilots within the Port of Bristol'. This was decidedly misleading, for the outer limits of the Customs Port were then the shoreline from Kingroad to Uphill, thereafter following imaginary straight lines drawn to Steep Holm, Flat Holm, Aust, and then back along the shore of the Severn to Kingroad. This, of course, did not cover any of the South Wales ports, nor any other important landing place in the Channel.

According to one historian, Swansea pilotage became independent by the Swansea Harbour Act of 1791 (31 George III, c. 83), which contained provisions for the newly elected Trustees to appoint pilots for their own Bay and Port, but they may have been ultimately subject to Bristol as will be seen later.¹ For other places the position was not as clearly defined as they would wish. Chappell, writing of Cardiff, states:² 'Up to the end of the 18th century there was no local pilotage authority, and no standard of skill and efficiency was enforced on persons who engaged in the responsible task of guiding vessels in and out of the harbours of the Bristol Channel. In 1798 steps were taken to institute a system of control, and the Bristol Corporation was constituted the Pilotage Authority, not only for the Severn ports, but also for ports farther west, including Cardiff. The powers do not appear to have been fully applied locally, and the five pilots who served Cardiff in 1806 were apparently subject to no special authority. A minute of the Cardiff Town Council of 23 June of that year records a report of the

¹ W. H. Jones, *The History of the Port of Swansea* (Carmarthen: W. Spurrell and Son, 1922), p. 295.

² E. L. Chappell, *History of the Port of Cardiff* (Cardiff: Priory Press, 1939), p. 117.

Town Clerk that pilotage control was vested in the Corporation, but was not exercised. Four months later, however, it was reported that a search of the Town Charters had been made and that these gave the Corporation no control over pilots.¹

I have found no trace of the regulation of 1798, but the position was clarified by the Bristol Channel Pilotage Act (47 George III, c. 33), which received royal assent on 1 August 1807. The preamble to this Act stated: 'Whereas the Mayor, Burgesses and Commonalty of the City of Bristol by ancient Charters and Grants from the Crown, have been for several Hundred Years past Owners of the Port of Bristol, with several Creeks and Harbours in the Bristol Channel as Members thereof: and the said Corporation are Conservators of the Rivers within the said Port from a certain Place about Four Miles Eastward of the said City to Kingroad and so down the River Severn and Bristol Channel to the two small islands called The Stipe Holmes and the Flat Holmes... (and) have from Time to Time appointed Persons to be and officiate as Pilots within the Port of Bristol, and Jurisdiction aforesaid... (their authority shall) be extended to the Appointment of Pilots for the conducting of Ships and Vessels into and out of and upon the whole of the Bristol Channel, and the several Ports, Harbours and Creeks belonging to and issuing from the Same... (that is) all Vessels passing up and down and upon the Bristol Channel to and from the Eastward of Lundy Island, and in or upon the several Creeks of the said Channel.'

This Act came into force on 1 October 1807.

Byelaws for the conduct of pilots were drawn up and published in 1809 and further regulations were made from time to time, notably in 1840 and 1853.²

Although doubt no longer existed, the position of the smaller, but growing, Bristol Channel ports was obviously unsatisfactory. In October 1836 Cardiff Town Council asked Bristol to allow them to appoint their own pilots, but were rebuffed.³ In March 1840 they sought Parliamentary powers, but failed. By October 1860 the number of Cardiff pilots had increased to 40, which was but a few less than those of Bristol. In the following year Cardiff, Newport and Gloucester took concerted action and succeeded in passing through Parliament a new Bristol Channel Pilotage Act which gave them independence. In the reorganization that followed this measure the Society of Merchant Venturers gave up its interest and Bristol pilots were henceforward appointed by the Bristol Corporation direct.

¹ The 1809 rules were published as *Bye-Laws, Rules and Orders... (for)... Pilots, Watermen and Others... within the Port of Bristol, and within the Bristol Channel to the Eastward of Lundy Island*. The fees for pilotage from Lundy to Kingroad were at this time—under 100 tons, 3 guineas; 100–200 tons, 4 guineas; 200–300 tons, 5 guineas; 300 tons and upwards, 6 guineas.

² E. L. Chappell, *op. cit.* p. 117.

Of the other ports in the Bristol Channel, Bridgwater had apparently been made an independent pilotage authority some time before this date. Bideford and Barnstaple, although geographically east of Lundy, appear never to have come under the control of Bristol, but this is not surprising since, fiscally, they had been connected with the port of Exeter for several centuries, even when Bristol was the Head Port for the rest of the Channel. With regard to Swansea, also geographically east of Lundy, one concludes that the Act of 1791 was altered in respect of pilots by the uncompromising wording of the 1807 Act. Certainly the *Shipping Gazette* of a date early in 1854 stated: 'The Bristol Town Council are naturally anxious to maintain the monopoly which they now enjoy of appointing pilots for the whole Channel, but we think Swansea, in particular, is a port of sufficient importance to have a voice in the matter.'¹ Barry was given its own pilotage authority by its Dock Act of 1885, and a Port Talbot authority was later created.

Most of the Bristol Channel ports are in voluntary pilotage areas, but Neath and Briton Ferry, the Bristol group of ports, and Gloucester, with Sharpness and Chepstow, have compulsory pilotage. The compulsory outward limit of Bristol pilotage was formerly Lundy, 80 miles distant, but was withdrawn to Flat Holm, 25 miles distant, in 1891. The pilots still made the area of Lundy their principal seeking ground until in 1914 they were forbidden to seek owing to war risks. The upheaval of war resulted in an amalgamation of pilots in 1918, and a steam cutter service was established in 1922 with the *Queen Mother*, owned by a limited company of thirty pilots. The compulsory pilotage area was reduced in 1921 to east of a line from Gold Cliff (Monmouthshire) to Clevedon Pier-head Light, and in 1935 further reduced to the line Gold Cliff to Walton Bay Signal Station. For passenger vessels the regulations are more stringent and pilotage is compulsory to the east of a line from Nash Point to Hurlstone Point.

A steam cutter service was commenced at Swansea in 1898 with the *Beaufort*; at Cardiff in 1912 with the *Edmund Handcock*; and at Newport in 1920 with the *Fancy*. A steam cutter had been proposed for Bristol in 1908, but the competitive spirit of the local pilots was against the scheme and they were the last to forsake sail.² The Gloucester pilots owned a few cutters, but a depot boat with attendant launch at Portishead Pool, with an agreement to use the Barry steam cutter off Breaksea, have been sufficient for their needs in the present century. The Bridgwater pilots generally used rowing craft, only one cutter, the *Polly*, having been traced there.

Diligent search has failed to produce pictorial evidence of the type of craft

¹ Quoted in *Bristol Mirror*, 14 January 1854.

² Charles Wells, *A Short History of the Port of Bristol* (Bristol: Arrowsmith, 1909), p. 336.

employed by the Bristol pilots in the eighteenth century and earlier. It may be suggested that before the 1807 Act regularized the profession and increased the number of pilots, thereby increasing the competition, they were small open boats. However, this is shown to be unlikely by evidence contained in a 'Register of Ships' commenced in 1795 by the Corporation of Bristol under authority of the Act 35 George III, c. 58.¹ The Act was intended for river craft and the local registry covered 'all Lighters, Barges, Boats, Wherries and other vessels exceeding the burthen of Thirteen Tons... Worked, Rowed or Navigated in or upon the Rivers, Canals, and other Inland Waters or Navigations within the City of Bristol and County of the same City.' It is a little surprising that pilot skiffs are listed, for in their case, under a column headed 'Area of Employment' is a statement of which the following is typical: 'Navigation from Pill in the County of Somerset, up the River Avon to Bristol and from Pill the whole extent of the Bristol Channel and occasionally into the English Channel, Saint George's Channel and to Ireland, the number of miles uncertain.' The particulars given for the twelve skiffs are here reproduced and it will

Reg'n No.	Name	Tons	Master's name	No. of men employed	Capacities
3	<i>Success</i>	24	Peter Seavell, jr.	Samuel Cox Thomas Tippett	Mariner Apprentice
6	<i>James and Samuel</i>	14	James Crady, jr.	William Lockyear John Rowland	Mariner do.
7	<i>Harbinger</i>	19	Samuel Spear	Thomas Rumley John Haskins	Mariner Apprentice
8	<i>Polly</i>	18	John Webber	John Hall John Hyde	Mariner Apprentice
9	<i>Elizabeth</i>	15	James Scarrots	Charles Mantle Samuel Shepherd William Harris	Mariner Apprentice do.
10	<i>Royal William</i>	14	George Parfit	Thomas Ray William Owen	Mariner Apprentice
13	<i>Star</i>	18	Thomas Hanmer	Joseph Hazle William Kingston Samuel Brooks	Mariner do. Apprentice
14	<i>Resolution</i>	14	Samuel Cole	John Rogers James Harris a boy	Mariner
15	<i>Ann</i>	14	Joseph Cox	John Hall	Mariner
16	<i>Endeavour</i>	15	George Thayer	Benjamin Browne Thomas Thayer	Mariner Boy
20	<i>Betsey</i>	19	James Payne	Samuel Hanmore Samuel Hazard	Mariner Apprentice
40	<i>Hero</i>	23	John Gilmore	William Gilmore Thomas Jones	Mariner Boy

¹ Bristol Civic Archives (Inv. No. 05077/1). Unfortunately the register was not kept up to date for there are only 44 entries, 43 dated 1795 and one dated 1802.

be seen incidentally that some of the present-day pilot families are represented.¹

It is probable that most of the pilot skiffs were also registered with the Customs authorities under the Act 26 George III, c. 60 (1786), which was the first Act to make possible the universal registration of British shipping. The Act was intended for 'vessels of Fifteen Tons and Upwards, having a Deck . . .', but in practice the privilege of registration was often sought, and received, by the owners of smaller vessels. The earliest surviving registration records for Bristol are the duplicate oaths for the years 1814 to 1820 and 1822, and the original books are intact from 1824. In searching these records I was able to trace five eighteenth-century craft which were in use as pilot skiffs, although it cannot be said with certainty that they were built for the purpose. As their dimensions and main historical data are of interest, they are listed below.²

William and Jane. Built at Bristol in 1768, rebuilt in 1789, and lengthened in 1831. She was listed as a pilot skiff 1837-45 (James Rowland) and broken up in 1852. In a register of 1825 she was owned by John Rowland, mariner; tonnage 18, dimensions 36 ft. x 11 ft. 2 in. x 5 ft. 5 in. After 1831 she measured 20 tons, dimensions 36 ft. 9 in. x 11 ft. 6 $\frac{3}{4}$ in. x 5 ft. 9 $\frac{1}{2}$ in.

Betsey. Built at Bristol in 1786. A register of 1814 shows her owned by Thomas Shepherd, mariner (he had been a pilot at least since 1801), and she was listed as a pilot skiff between 1837 and 1840 (James Ray), after which she was sold to Barnstaple. The register shows her tonnage to be 21, and dimensions 39 ft. 8 in. x 11 ft. 6 in. x 6 ft. 6 in.

Bristol Endeavour. Built at Pill in 1791. A register of 1817 refers to an earlier registry in 1805 which was cancelled when the vessel sank in Morgan's Pill, but she had then been raised and repaired. She was owned by James Buck, pilot, but sold in the same year and afterwards sunk in the Channel. Her tonnage was 16, and dimensions 37 ft. 2 in. x 10 ft. 4 in. x 5 ft. Possibly she is identical with the *Endeavour* of the 1795 register.

Tartar. Built at Bristol in 1794. In a register of 1816 was owned by George Thayer, pilot (he was appointed in this year), and was apparently broken up soon afterwards. Tonnage 21, and dimensions 36 ft. 4 in. x 12 ft. 2 in. x 6 in.

Fancy. Built at Bristol in 1796 as an open boat; rebuilt and decked in

¹ The term skiff, rather than cutter, was always used in the service in the days of sail. Its origin in this connexion merits investigation. Possibly such craft were generally called skiffs in the days when cutters, naval, revenue or packet, were sizeable craft of advanced rig. Almost certainly the term is a relic of the days when the class of a craft was determined by her hull form rather than the rig of her masts.

² Copied from the Registers by permission of the Commissioners of Customs and Excise.

1801. In 1825 she was owned by James Parfitt, pilot, and was broken up in 1831. Tonnage 13, and dimensions 33 ft. 9 in. \times 9 ft. 8 in. \times 5 ft. 9 in.

One other fragment completes our present knowledge of eighteenth-century Bristol pilot craft. This is a report of a loss in 1790. It reads: 'Loss of the *Swan* pilot skiff. Saturday the 26th ult., the *Swan* pilot-boat being on shore on the Holmes,—Kidwell, the owner, in endeavouring to get her off at the first of flood, the wind being at W.N.W. a great surf dash'd her to pieces against a rock, whereby the owner was unfortunately drowned.'¹

For the greater part of the nineteenth century the Bristol pilot craft are well documented. The 1807 Act did not lay down rules for the size of skiffs, but was content to stipulate the markings to be carried: 'Each pilot's skiff shall be marked with the number appointed for her by the Haven-master, in black paint on the three lower sails, such number to be at least four feet in length; the hull to be painted black, with a white streak under the gunwhale; to be also numbered on the bow and the pilot's name on the stern, and to carry a flag constantly at the mast-head, with blue and white horizontal stripes, of the dimensions four feet by five feet.'²

By a stroke of good fortune there have been preserved the lines of the skiff *Charlotte*, built by the Hilhouses of Bristol in 1808 for John Berry, pilot. The plans, drawn up by George Hilhouse, have been preserved among others by Charles Hill and Sons, shipbuilders and successors to the Hilhouses.³ This skiff was a medium bodied little craft with a forefoot rather shallower than in later examples. She had a clean run except that it was slightly interrupted by the tuck under her square stern. Her timbers give the impression of great strength. Dimensions given on the plans are: length from the fore part of the stern aloft to the after part of the post on the keel, 33 ft. 2 in.; length extreme aloft 38 ft.; breadth extreme 11 ft. 8 in., depth from skin to skin 6 ft. 4 $\frac{1}{2}$ in.; admeasurement 18 $\frac{8}{94}$ tons: mast (including 7 ft. head) 43 ft.; boom 32 ft. 9 in.; gaff 20 ft.; bowsprit 34 ft.

There is no sail plan of the *Charlotte*, but the spar dimensions are a help in this matter and the following advertisement, dated 1812, gives a clue to the sails and equipment carried by the skiffs of the period: 'For Sale the skiff *James and Samuel*, 14 $\frac{1}{2}$ tons, at Pill, with furniture, etc. consisting of 2 anchors, 2 cables, 1 main-sail, 2 fore-sails, 4 jibs, 1 square-sail, 1 gaff-topsail, 1 topmast-steering-sail, 1 pont (*sic*).—James Craddy, sr.'⁴

¹ *Felix Farley's Bristol Journal*, 10 July 1790.

² In 1861 when other pilotage authorities were created in the Bristol Channel the port of Bristol pilots retained the number in the mainsail, while other ports adopted initials such as 'By', 'Cf', etc. Numbers on present pilot craft are station numbers. For instance the Bristol craft are numbered: 1, on the Breaksea station; 2, at Portishead; 3, reserve; 4 and 5, tenders to No. 2.

³ *Hilhouse Draughts*, fo. 41. Also Science Museum (Kensington) negative 5954.

⁴ *Bristol Mirror*, 28 November 1812.

With the aid of the annual issues of the local directory, we can list all the Bristol pilot skiffs from 1837 until 1917, together with their owners (usually one pilot, rarely two or three). The Custom House records can then give dimensions, dates and places of build, and other data for such as were registered. Until 1861 this applied to the great majority, but after that date only five out of 83 new craft. From these sources I have listed 162 pilot skiffs and ten other examples which may have been reserve craft, although possibly yachts. There were 25 in use in 1837 and the number gradually rose to a maximum of 45 in the years 1863-6. There was then a decline to 33 in 1880 and 26 in 1890, down to the level of 16-17 in the years 1893-1901. Numbers then slightly increased to 26 in 1907 and fell again to 18 for the years 1912-17.

There was considerable variation in the size of the skiffs. In the period 1814-35, during which 'old measurement' of tonnage was in vogue, the two largest were the *Echo*, $37\frac{3}{4}$ tons, built by Hilhouse at Bristol in 1835, and the *Albion*, built at Bristol in 1825, which measured, after lengthening in 1830, $38\frac{3}{4}$ tons. The smallest was the *Fancy*, mentioned above, of $12\frac{9}{16}$ tons. The lengths of these three craft were 44 ft. 3 in., 45 ft. 6 in. and 33 ft. 9 in. respectively. The average tonnage of the 38 craft listed for this period was 24.

In the period 1836-55, when 'new measurement' was in use, the largest was the *Eliza*, built at Bristol in 1839, of $30\frac{1009}{3500}$ tons, and the smallest was the *Try*, built by Thomas Price at Pill in 1854, of $13\frac{2609}{3500}$ tons. Their respective lengths were 44 ft. and 33·8 ft., although there were longer craft up to 46 ft. 6 in. which must have been of more slender build.¹

Owing to the small proportion registered with measurements under 'Moorsom's Law' we have only incomplete records for the period after 1855. The largest skiffs appear to have been the *Pet*, 31 tons, 47 ft. long, built at Scilly in 1843 and purchased in 1862; the *Unexpected*, 33·75 tons, 49·5 ft. long, built by H. S. Trethowan at Falmouth in 1878; and the *Pet*, 53 ft. long, built by Rowles at Pill in 1906. The latter is still with us, and is considered by present-day pilots to have been the largest skiff ever used in the Bristol service.² The smallest skiff cannot be named with certainty, but there was a 10-tonner, the *Wave*, built by Cooper at Pill about 1867.

¹ Some comparisons of old and new measurement are afforded by the following examples. *Alarm*, built at Bristol 1823, lengthened to 43 ft. 4 in. in 1833; tonnage after lengthening $31\frac{50}{94}$ o.m. or $18\frac{1664}{3500}$ n.m. *Sarah*, built at Bristol 1828, lengthened to 43 ft. 1 in. in 1837; tonnage after lengthening $36\frac{26}{94}$ o.m. or $25\frac{2245}{3500}$ n.m. *Perseverance*, built at Bristol 1835; 38 ft. 1 in. long; tonnage $27\frac{13}{94}$ o.m. or $21\frac{2208}{3500}$ n.m.

² After several years as a relief boat, fitted with an auxiliary engine, the *Pet* was sold out of the service in 1949, and it is pleasant to record that she was purchased by Mr T. W. R. Ellis, for whose uncle she had been built.

It appears that no plans survive of the skiffs of the middle nineteenth century and after the *Charlotte* of 1808 there is a distressing gap until the *Hope* of 1895. The following is a recapitulation of the known plans. As several Rowles-built craft exist, other than the *Cariad*, it is to be hoped that more of their lines can be recorded to balance the larger number of available plans of Cooper-built craft.

Charlotte (1808 by Hilhouse, Bristol), 19 tons (o.m.). Lines in the *Hilhouse Draughts*, folio 41; copies obtainable from Science Museum negative no. 5954.

Hope/Epoh/Hope (1895 by Cooper, Pill), 17 tons. Lines taken off by Mashford Brothers, Cremyll, for her former owner, Mr J. E. Gerard-Pearse.

Hilda/Rhoda (1899 by Cooper, Pill), about 18 tons. Lines published in *The Rudder* for January 1903, also in *Yachting Monthly*, Vol. vii, pp. 106-7, and Vol. XLII, p. 305.

Mascot/Betty/Dyarchy/Brioni (1901 by Cooper, Pill), 17½ tons. Lines recorded on Science Museum negatives 8556 and 8498.

Cariad/Cariad of London (1904 by Rowles, Pill), 18 tons. Science Museum negatives 105/38 and 8487. Also published in her owner's book *A Yachtsman's Log* (London: Lovat, Dickson and Thompson Ltd., 1935).

Faith (1904 by the Penarth Yacht-building Co.), 25½ tons. Lines published in E. Keble Chatterton, *Fore and Aft Craft* (London: Seeley, Service and Co., Ltd., 1927); and also in *Yachting Monthly*, Vol. vi, p. 423.

Sunbeam/Herga (1905 by Cooper, Pill), about 20 tons. Science Museum negative no. 8486.

The majority of the nineteenth-century skiffs were built at Bristol or Pill. As Pill has always been a 'creek' or 'member' of the Port of Bristol, and the registration certificate asked merely for 'port of build', it is highly probable that many noted as built at Bristol were in fact built in the pilot's village. Builders at Pill whose names have been preserved were:

James Phillips; who built his own skiff, the *James*, in 1809.

William Morgan and Thomas Rowles; who were building in partnership c. 1815-17.

William Morgan; building 1822-40.

Thomas Price; who had been building fishing and other small craft at Weston-super-Mare, came to Pill and built there 1854-8.

Charles Cooper; commenced about 1862 and died in 1879. His property devolved to George Cooper, then building at Penarth, but the Pill yard was carried on by John Cooper until 1905.

Edwin Rowles; who was a shipwright at Bristol 1877-8 (*vide* Directories), and began building skiffs at Pill in 1887. He was the last commercial builder there and his business closed down in 1910.

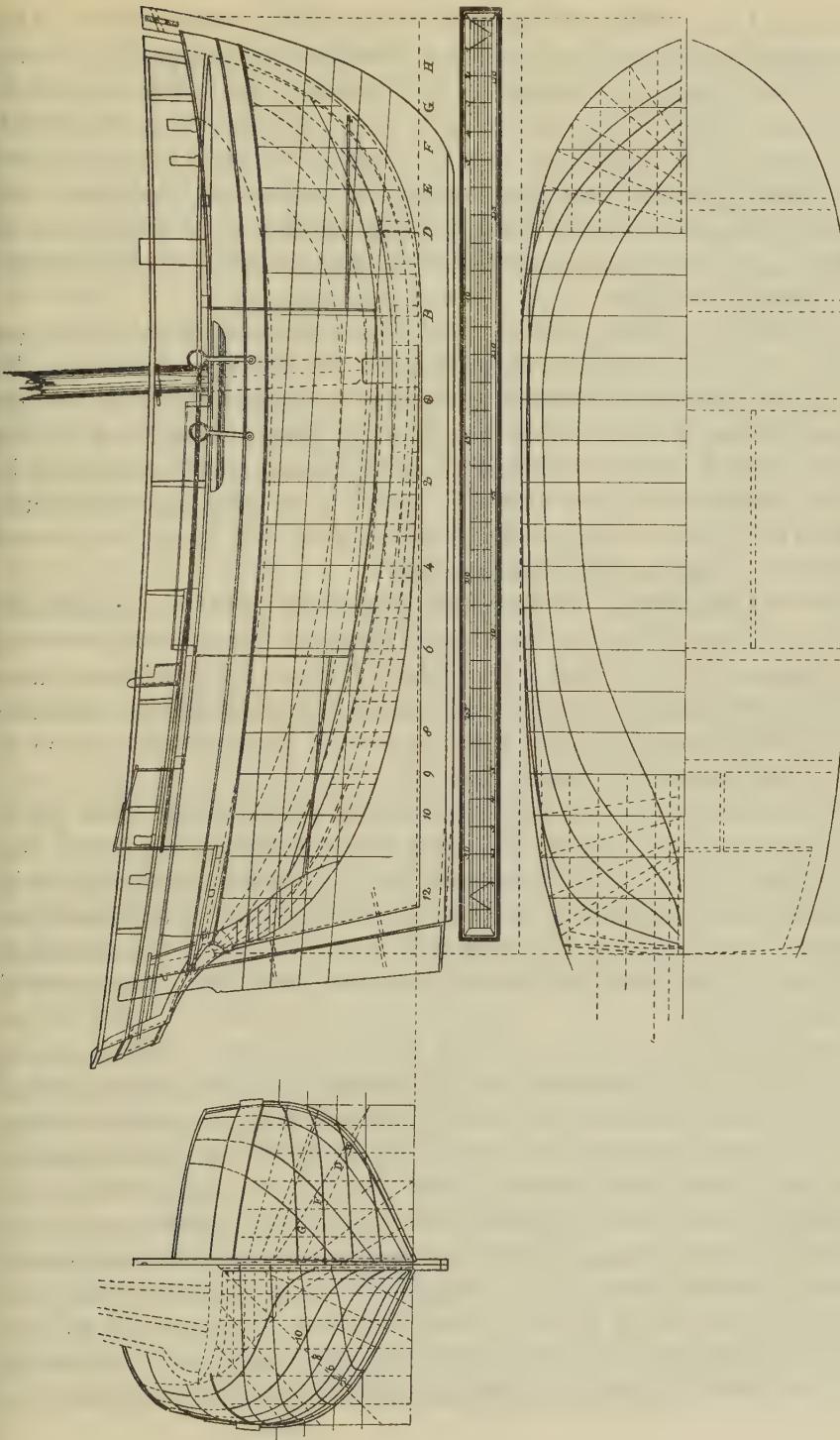
Most of the above builders also launched coasters of sloop, schooner and snow rig, and latterly fishing craft and yachts were also built. Of the two yards existing in living memory, that of Cooper was at the head of the creek and, at least as early as 1885, incorporated a diminutive dry-dock. Rowles's yard was near the mouth of the creek on the Bristol side. As a generalization Rowles had the reputation of building the faster craft, but those by Cooper were considered better for sea-keeping in bad weather. Neither builder used plans, but built by eye from a half model which had previously been approved by the owner and his many unofficial advisers. Approximate costs at the turn of the century were £350-450 for a medium to large skiff. The *Hilda* of 1899 cost £350 and was built by Cooper with one man and a boy in six months.

The Hilhouses of Bristol built several of the early skiffs, including the *Charlotte* of 1808 previously mentioned, and there were early isolated examples built at Bideford, Ilfracombe and Padstow. A feature is that they were often built in batches, the most notable year being 1851, when two were built by R. and J. Tredwen at Padstow and seven by the versatile William Patterson at Bristol. Of Patterson's, six were sister vessels of 43·3 ft. length and varying between 25 and 26 tons. The seventh was 46·6 ft. long and measured 28 tons.

There is little evidence that builders at other ports in the Channel built pilot craft before the Act of 1861 created a wider demand in the newly defined pilotage areas. However, there was one important exception as the Swansea pilots had their own sources of supply for their unique two-masted craft.¹ A possible further exception was Cooper of Gloucester, who was building in 1859, and he may have been a member of the Pill family. A skiff was built at Cardiff in 1862 and Charles Cooper opened his Penarth yard at least as early as 1863. Other yards, with the year of their earliest pilot skiff, were: John Williams, Newport (1868); William Williams and Sons, Newport (1871); Davies and Plain, Cardiff (1872); Mordey and Carney, Newport (1876); and Jeens and Levison, Gloucester (1876).

After the upheaval of 1861, competition among the pilots increased, and skiffs were to be found seeking 100 miles west of the Fastnet. They would also sail as far afield as the Thames or Clyde to be sure of an incoming ship. Speed became a big desideratum and with several new builders in the Bristol Channel, and other experienced builders at such centres as Fleetwood, Hamble and Porthleven entering the field, considerable variety of design came about. There were also many purchased craft, former fishing craft and yachts, to swell the motley fleet. A considerable departure from the traditional design was represented by the *Faith of Barry*, built at Penarth in 1904

¹ J. F. Coates, 'Swansea Bay Pilot Boats,' *The Mariner's Mirror*, Vol. xxx (1944), pp. 114-22.



Pilot skiff *Charlotte*, built by Hilhouse and Company at Bristol, 1808. Copied from a builder's draught by George Hilhouse, by the courtesy of the Director of the Science Museum, South Kensington

to the plans of Harold Clayton. She was 50·5 ft. long and of 25 $\frac{1}{4}$ tons. Her most noticeable innovation was a shallow forefoot and, internally, she was unusual in having a separate owner's cabin. Probably the farthest departure was represented by the two cutters built by Armour Brothers, of Fleetwood, in 1911, *Alpha* of Newport and *Kindly Light* of Barry. These exhibited features of the Lancashire shrimpers, a shallow forefoot and deep heel, and are said to have been noted for speed in light weather. The dimensions of the *Kindly Light*, now the yacht *Theodora*, are: length 47·9 ft., breadth 14·6 ft.; tonnage 20 gross, or 37 Thames measurement.

The Pill builders, backed by the local pilots, introduced their changes piecemeal. The old square stern developed into an elliptical counter in the larger skiffs, or a flat raking transom with outside rudder-head in the smaller ones. They never departed from the straight stem, experience telling them that a clean forefoot and broad shoulders meant good seakeeping in the sort of weather they met west of Lundy. They adopted the labour-saving device of roller reefing gear in the 1890's, but found it a mixed blessing for it ruined the set of the mainsail.

A number of descriptions of the skiffs of the last half of the nineteenth century have appeared in print, but most of these are distorted by reference to later products which were far from typical. Captain H. S. Watkins, who served his apprenticeship in one of the last of the sailing cutters, and who comes of a family long associated with the service, gave this description in a lecture to the Bristol Shiplovers' Society:

'In the 1870's and 1880's they were sturdy cutter rigged craft 35 to 40 feet or more on the keel, usually with a straight stem, big beam, big bodied and deep. They had high bulwarks and probably not a cockpit as in the later ones. Their rigging was probably tarred hemp, set up with deadeyes and lanyards, though I have heard some had chain rigging. The mainsail had four sets of reefs and the foresail two sets, and there were several different sizes of jibs.'

'In 1908, when there was a fleet of about a hundred cutters among Bristol, Cardiff, Barry, Newport and Gloucester, they practically all had wire rigging, three shrouds a side set up with lanyards, and patent reefing mainsails. Running gear was best manilla and all blocks had patent sheaves. Some, including the largest Bristol cutter, the *Pet*, had pole masts. They carried a large cotton canvas mainsail in summer and a smaller flax one in winter; headsails were changed as required, and plenty of light canvas carried, —spinnaker, balloon foresail, jib topsail and large topsail. They had a boarding punt about 13 feet by 5 feet by 2 feet 6 inches. As to construction, their keels were 6 inches thick, varying in depth up to 18 inches and 40 or more feet long, made of elm and in one piece. The stem and stern

posts were of oak, and the frames of oak in grown shapes were 3 inches thick, double amidships and single at the ends. The planking was of oak, elm and pitch pine, 2 to $1\frac{3}{4}$ inches. The decks were of pine, 2 inches by $3\frac{1}{4}$ inches wide. The mast and bowsprit were of pitch pine or Oregon pine. There were no ports, only deck lights. Below there was a 60-gallon water tank, pilots' cabin with two built-in bunks, a settee each side and a table in the centre. The crew's forecastle also had built-in bunks. There was a chain locker forward, and sails, stores, lamps and ropes were kept aft in the steerage.'

As always, the question of the speed of the skiffs is a somewhat controversial subject. Regarding speed on service, Pilot William J. Russell, one of the Pill veterans, has contributed accounts of two interesting events. The first took place in the winter of 1907, when he was a westernman in the *Hilda* No. 2 (Enoch E. Watkins). They were in Lundy Roads, in unpleasant weather, hanging on to a Watkins tug because the wind, strong and a little to the west of south, made it impossible to anchor with safety. Cruising nearby was the *Emma* No. 20 (Edward Rowland), under four rolls of mainsail, reefed foresail and storm jib. At about 4 p.m. they saw the *Emma* increase canvas, hoist her pilot flag, and stand towards the south end of Lundy. About 10 or 15 minutes later she showed the Anglo-American private signal rocket and almost immediately the steam tanker *Potomac*, bound for Avonmouth, came into sight. Pilot Rowland shortly afterwards boarded her. It then became too dark to see what happened. During the night the wind increased, with heavy rain, but it kept in the same direction. At 8 a.m. next morning they were still hanging on to the tug, when they saw a skiff approaching, which proved to be the *Emma*. She hailed the *Hilda*, reefed mainsail to five rolls, reefed staysail and kept under way. At dinner time, to the *Hilda*'s chagrin, she boarded an Elder Dempster passenger steamer. It later transpired that between boarding the *Potomac* at about 4.30 p.m. and being sighted at 8 a.m., the *Emma* had sailed for home, with the advantage of the tide, and reached Avonmouth as the tanker was in the Old Dock locks. Pilot Rowland had rowed off and boarded her and, just as the tide began to ebb, they once more set sail for Lundy, knowing the Elder Dempster liner was due. The tide was a neap, no more than two or three knots, but the wind remained on the beam and strong. The distance of about 150 miles was accomplished in just over 15 hours, or about 10 knots over the ground. The *Emma* was built in 1902 by Rowles, and the *Hilda* in 1899 by Cooper, both at Pill.

The second case contributed by Pilot Russell occurred in 1911 or thereabout. He was then a westernman in the *Freda* No. 8 (W. Selway and Samuel Buck). One morning they set out from Pill soon after the 8 a.m.

train had brought the Bristol papers with their shipping intelligence. The wind was fresh and northerly, and they had to beat out of the river. On clearing the mouth they were in company with the *Lily* No. 24 (William Hunt) and the two skiffs began to race. The wind remained in the same direction but freshened. At midnight they were off Pendean, and Pilot Buck boarded the steamer *Nymegen*. When rounding Land's End they were in sight of the *Lily* and also at 8 a.m. the next morning when they were 3 miles south of the Eddystone. Sad to relate, they both missed the New Zealand steamer they were seeking. On this occasion they covered two ebbs and two floods with a strength of 3-5 knots. The distance Avonmouth to Plymouth being approximately 236 miles, they averaged 10 knots for the 24-hour run. The *Freda* was built in 1899 by Rowles at Pill and the *Lily* in 1905 by Bowden at Porthleven.

The various regattas at Bristol Channel ports and watering places always included races for pilot craft. One of the first skiffs to attract individual attention on account of her speed was the *Polly*, built by Davies and Plain at Cardiff in 1878. She carried off many trophies and doubtless caused some heartburning among the Pill fraternity. The palm was retrieved in 1893, when Rowles launched the *Marguerite T.* for Pilot Frank Trott of Cardiff. She had a long run of successes, including firsts at Cardiff regatta in 1895, 1896, 1897, 1905 and 1907. Happily she is still with us. Her late owner informs me that he has a photograph of her in racing trim with an immense mainsail with its boom projecting 6 ft. outboard, and a hand hanging over the counter with a syringe to keep the leach wet to stop it shaking. And, speaking of these stratagems, B. R. Waite states that *Polly*'s success under Pilot 'Slippery' Tom Williams was due to the accurate placing of extra ballast in the form of an anvil, which had a space marked for it on the cabin floor.¹

To conclude these notes on the Bristol Channel pilot cutters it must be recorded that there has been no lack of writers in praise of the all-round qualities of the class, including many experienced yachtsmen. One of the earlier enthusiasts was Thomas Fleming Day, editor of *The Rudder*, writing in his magazine for January 1903. Articles have appeared sporadically in *Yachting Monthly*, notably from the pen of Harold Clayton in April 1909, and, more recently, by B. R. Waite.

Mr Waite may be quoted briefly: 'To the pilot... seaworthiness has a very definite meaning. To him it meant a boat that would take care of herself and him when hove-to in a gale. One with an easy motion in a heavy sea, that placed a minimum of strain on gear and crew; a craft that was powerful enough to claw off a lee shore when occasion demanded it, and

¹ B. R. Waite in *Yachting Monthly*, Vol. XLII, pp. 305 *et seq.*

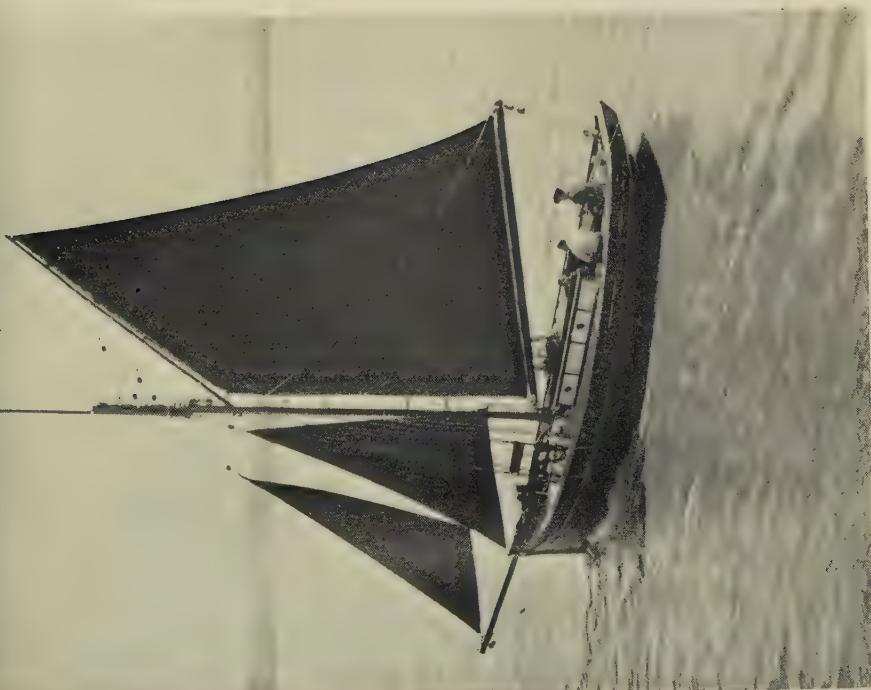
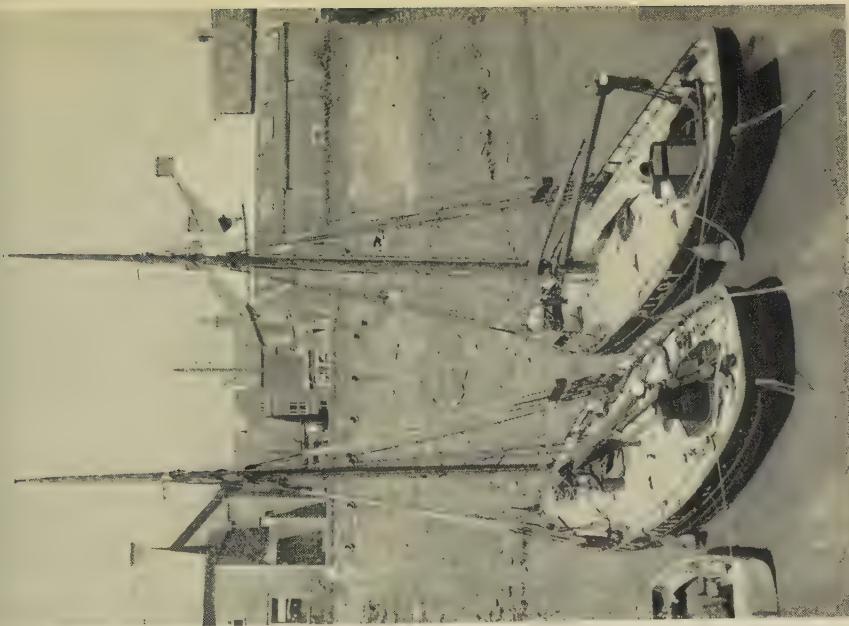
(b)

THE LAST TWO BRISTOL SAILING CUTTERS, E.M.C.
AND PET, AT PILL IN 1937

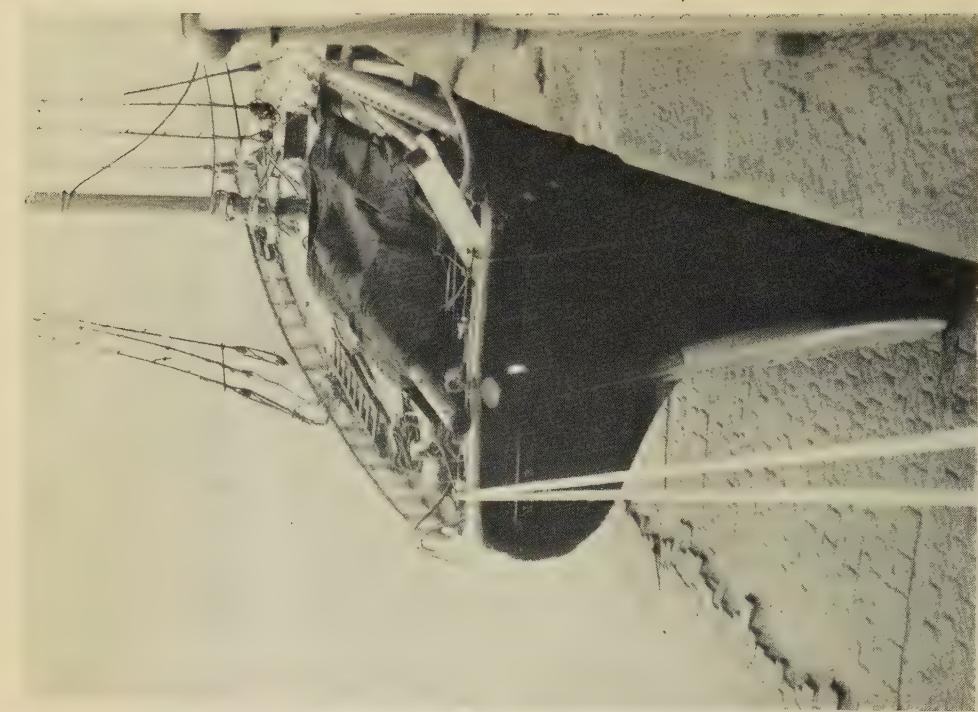
Both were built by Rowles, in 1904 and 1906 respectively, and exhibit his style of round stern. At this time they had auxiliary motors

(a)
AN EXAMPLE OF THE SQUARE STERN TYPE,
BUILT BY COOPER, AT PILL

The yacht *Myrtle*, formerly the Newport skiff *Myrtle Irene*, and originally the *Little Pet*, built in 1897. The coach roof is a later addition



(a) AN EXAMPLE OF THE FLAT TRANSOM TYPE OF SKIFF, BUILT BY COOPER, AT PILL
The boat is a flat transom skiff, built by Cooper, built in 1860.



(b)





THE BRISTOL SKIFF *HILDA* (ENOCH E. WATKINS), BUILT BY COOPER, P.L.L., IN 1899

Shown working out of Ilfracombe Harbour. By Courtesy of the Committee and
Curator of Ilfracombe Museum

inally to be so rigged that she could be sailed back single handed to her home port if necessary.'¹

Mr Frank G. G. Carr, who has sailed his former pilot cutter over some very testing courses in the Biscay, Baltic and around the United Kingdom, writes: '(The) *Cariad* is a fine specimen of the Bristol Channel pilot cutter type, craft which are admittedly among the finest sea boats of their size in the world. They are wonderfully dry and buoyant, will heave to comfortably in any weather Their failing is that they are definitely slow to windward. Their long straight keels and deep heels made them run splendidly. . . . They are enormously strongly built.'²

Let us now turn to the pilots themselves, and their assistants. Until comparatively recent times the pilot was appointed after petitioning the Lord Mayor of Bristol and getting influential friends to speak for his ability. If he was of one of the old-established piloting families he had probably undergone an apprenticeship and his appointment was virtually unquestioned. Now the procedure has been considerably complicated, for besides an apprenticeship of five years, the candidate must obtain his mate's foreign going certificate, and then, being more than 25 or less than 45 years old, serve a probationary period of four years. In the first two years he is entitled to pilot vessels under 1500 tons and in the next two years vessels under 3000 tons. Then, if his record is clean, he can pass an examination and obtain his First Class Pilotage Certificate.

In the old days discipline seems to have been good on the whole, although the Press sometimes records cases of suspension. For instance, in 1810, it was stated: 'John Brown, the pilot who ran the *Rosetti* on shore, which ship was totally lost, was broke last week by the Company of Merchants and thereby rendered incapable of ever serving again in that capacity for neglect of duty, carelessness, obstinacy and ignorance. It is to be hoped that this will make the Pilots in general more attentive and less insolent.'³ In spite of this scathing report, however, the suspension must have been of a temporary nature, for John Brown is shown in a list of pilots for each year 1809 to 1837. Another case occurred in 1851 when six months' suspension was imposed upon John Percival for stranding the recently completed steamship hull *Demerara* in the Avon. Contemporary Press reports of this case lead one to suspect that the pilot had to take the blame for the tug-master's bad judgement.

There has survived an interesting Log-cum-Account Book, kept by

¹ *Ibid.*

² F. G. G. Carr, *A Yachtsman's Log* (London: Lovat, Dickson and Thompson Ltd., 1935), pp. 80, 317.

³ *Bristol Mirror*, 1 September 1810.

Pilot James Cox in the years 1831 to 1838. Between the lines of its methodical entries one can visualize the duties of a pilot of his day, though not the hardships.¹ Cox was born in 1798, received his Branch Certificate in 1831 and is believed to have been drowned in 1839 when his skiff (the *Echo*, built by Hilhouse at Bristol in 1835) was lost in the Bristol Channel. A typical entry from his book is as follows:

11th October 1838, the French brig *Julia*, 84 tons.

To My Pilotage from the Bason to Kingroad	o. 10. 0
To 1 Yaul and 4 men from do. to do.	o. 18. 0
To 2 Horses and 1 Driver	o. 11. 0
To My Pilotage from Kingroad to Lundy	2. 10. 0
To Haven Masters fee	o. 1. 0
	<hr/>
	£4. 10. 0

From this it will be seen that, apart from pilotage, the pilot was responsible for towing arrangements in the river. Bristol was late in adopting systematic steam towing and, incidentally, when the tug *Fury* was introduced in 1836, there were riots, led by Pill men, and the offending vessel was boarded with force and cut adrift. In the earlier years of Cox's piloting career the horse and towing yaul method was at its height. Most vessels were handled by one yaul and three or four men, but there were cases of up to three yauls and fourteen men, doubtless depending on the size of the towed vessel and the state of the tide. The standard fee for the usual tow, from Kingroad to the 'Bason', was 3s. 9d. for each man and 3s. for the yaul, plus an allowance of beer. Where towing horses were used, usually two and one driver, the standard fee was 5s. per horse and 1s. for the driver.

The pilot cannot be said to have reaped a fat living. The fee for taking the largest ships from Kingroad to Lundy was £6. 6s. od., but large ships were few when shared among the 34 or so pilots of the port, and, taking large and small, he never reached an average of one ship a week. The largest single fee was probably for a job of salvage, for he received £35 for taking the French brig *Hermione* into Ilfracombe. Once he took a yacht to Weymouth for a fee of £16, and another time he piloted a brig of 373 tons from Lundy to Liverpool for £5. 5s. od. On many occasions he was pleased to accept 10s. as an assistant pilot and occasionally a 'dotage' of 5s. Occasionally he was quarantined for nine or ten days on board a ship he had piloted in, and for this he received 7s. 6d. a day. In 1835, 1836 and 1838

¹ I am indebted to Mr Maurice P. Buck for the loan of this book and for permission to use these extracts.

He spent about six weeks of the year fishing for mackerel, a practice which the authorities encouraged, probably because Bristol did not have a considerable fishing population.¹ As a matter of interest Cox's earnings for each of the complete years 1832 to 1838 are tabulated below. They exclude fees for towage, etc., which he handled, but had to disburse later.

Year	Own Income			Pilotage		Half fee and misc. jobs
	From Pilotage	From Fishing	Tonnage	No. of jobs		
	£ s. d.	£ s. d.				
1832	80 12 9	—	5026	41	3	
1833	85 6 6	—	4910	34	4	
1834	105 11 6	—	4715	23	5	
1835	78 12 0	31 10 0	4496	17	2	
1836	162 14 6	27 13 0	7586	29	4	
1837	122 15 6	—	5088	26	7	
1838	186 8 11	23 12 6	6917	30	8	

The pilot's assistants have always been called Westernmen, a title which savours of the Atlantic breeze, and of itself can conjure the scend and flurry of a cutter in the deep sea. A pilot carried two, sometimes only one, westernmen, paying them 3s. in the pound of his earnings and providing food. They were responsible for looking after the skiff in every way, picking up the punt after the pilot had boarded a ship, and then sailing back to base. Quite frequently the return was made single handed, and on many occasions with one westernman and a boy apprentice. If no pilot was available, a westernman was permitted to take a ship to the river mouth and, after seven years' experience, he was entitled to petition to become a pilot himself.

It is to be hoped that one day a writer will do justice to the human aspect of a pilot's life. There are many tales yet untold of the excitements and hazards of their calling and although the number of surviving pilots of the old school is fast dwindling, the close relationships among their number often assure that family tales and traditions are handed from father to son.

In the Press one can find many tales that reflect the hazards of pilotage, but all too few tales of triumph. Eminently seaworthy though they might be, several of the skiffs have foundered in the Channel, the area around Lundy being the most frequent scene of disaster. The most memorable occasion was on 1 November 1859, when the *Diligent* (George Gilmore) was lost with her whole crew of five. In the same hurricane six large ships were wrecked on Lundy and the whole of their crews lost. A similar incident occurred on 17 November 1864, when the *Ellen* (Charles Porter) foundered

¹ Bounties were offered in the famine years of 1795 and 1801 to all and sundry who could bring fish to Bristol for sale in the open Market. Pilots were offered additional bounties by the Society of Merchants.

off Lundy with the loss of all her five hands, although Porter escaped as he had earlier boarded a ship. Other founderings and wrecks have been recorded, as well as a number of collisions.

Another type of disaster took place on 5 January 1826 when the *Helen*, bound from the River Jade for Bristol, was boarded by the pilot and afterwards went missing in the Channel.¹ The probability of this type of trouble was naturally greatly increased when ships were boarded at a distance from home. Pilot Tom Thayer used to say that he once boarded a German barque off the Lizard and contrary winds blew them into the Bay of Biscay. It took him 15 days to bring her to Bristol. On another occasion he was 11 days bringing a local barque from a position only 10 miles west of Lundy.

To end on a happier note, the Press of 1814 tells a tale of cool daring. It appears that the *Mary* (Murphy), bound from Newfoundland for Ross in Ireland, had been captured off Cape Clear by the American privateer *Mammoth* and a prize crew put on board to take her to France. She was in the vicinity of Lundy when William Ray boarded her and found that the prize-master imagined himself in sight of islands off the French coast. History is silent as to whether Ray quickly disillusioned him or whether the first shock came when the prize crew heard Devon accents in Ilfracombe harbour, whether they were piloted.² Ray's skiff, incidentally, was the *Britannia*, 20 $\frac{3}{4}$ tons, built at Ilfracombe in 1780.

¹ *Bristol Gazette*, 21 January 1826.

² *Felix Farley's Bristol Journal*, 3 September 1814.

EARLY AMERICAN TRADE WITH MAURITIUS

By A. Toussaint

THIS brief account of early American trade with a little island in the South Indian Ocean, once important in world history but now very much forgotten, is based mainly on archive material preserved in the Mauritius Archives. Occasional references to this trade are to be found in few publications by historians of American commerce, and also in Milburn's *Oriental Commerce* and Macpherson's *Annals of Commerce*, but, on the whole, very little has been written so far about it and a comprehensive survey of it is still lacking. The earliest relations between the colonists of North America and lands in the South Indian Ocean seem to date back to the second half of the seventeenth century.

About 1685, when European powers began to form permanent settlements in the West Indies, the pirates and buccaneers of these islands transferred their headquarters to the South Indian Ocean where they set up a kind of pirate state known as *Libertalia* in northern Madagascar, in the bay of Diego Suarez. Among the founders of *Libertalia* was an American pirate, Thomas Tew, who, after making a fortune in Madagascar, lived for many years in Rhode Island as an honest citizen.

At an early date American merchants entered into commercial relations with the Madagascar pirates under the auspices of the Jolly Roger. According to Charles Johnson, several American ships called there to take slaves in the last years of the seventeenth century, in particular ships belonging to Frederic Phillips, of New York.

One of Phillips's captains, named Samuel Burgess, turned pirate himself. When he came back to New York after spending two years in Madagascar, he married one of Phillips's relatives (his own daughter, according to some authorities), and between 1700 and 1703 he led to Madagascar three expeditions financed by Phillips which brought him a handsome profit.

Another American pirate connected with this trade was John Halsey, a close friend of Burgess. Both died in Madagascar and have found a niche in Johnson's gallery of famous pirates.

From Robert Quary's letters, now preserved in the manuscripts of the House of Lords, it would appear that Pennsylvania merchants also had a share in the trade with the Madagascar pirates at the end of the seventeenth century. When the French settled permanently in the neighbouring islands of Mauritius and Réunion, then known as Isle de France and Bourbon,

pirate activities in Madagascar declined, and by 1730 came to an end. With the pirates, American merchants also disappeared from the Madagascar scene and did not reappear until much later.

The treaty of amity and commerce signed by France with the American colonies at the outbreak of the War of Independence reopened Madagascar to American activity. On 21 October 1778 the governor of Isle de France instructed the French agent in that island to receive well any American ships that might call, but there is no evidence that the States sent expeditions to Madagascar during the war.

Just after the war, however, we find that the Hungarian adventurer Benyowsky, after failing to settle Madagascar in 1774-6, with men and funds from Isle de France, turned to America for support. In 1784 Baltimore merchants sponsored his second attempt which eventually ended in disaster. Thereafter, it does not seem that American traders tried to secure a foothold in Madagascar until 1830 when they set up commercial houses in Majunga and later on in Tamatave. As for American diplomatic activity in that country, it did not begin until 1867.

At the time when Baltimore merchants were investing capital in Benyowsky's schemes, other Americans were turning their attention to Isle de France which, after the outstanding part it had played in the eastern theatre of the war, was then becoming known as the 'star and key of the Indian Ocean'.

As early as 19 May 1784 Robert Morris wrote to Lafayette requesting his exertions for establishing a free port at Isle de France. 'I consider it as almost certain', he said, 'that America would find it more advantageous to trade with that port than to go on to India; and hence I draw one very strong inference; that we should not only be by that means brought into closer political connection with France, but that France would hold a much larger share of all of our commerce, than she should without such an establishment.'

Since 1769, when the oriental trade of France had been laid open by the suspension of the privilege of the French East India Company, the commercial activity of Isle de France had much increased, rising from only 78 arrivals in 1769 to 252 in 1783.

In 1785 a new Company was established with the privilege of an exclusive trade to all countries beyond the Cape of Good Hope, except, however, Isle de France and its dependencies. In 1787 Port Louis, the main harbour of Isle de France was declared open to foreign trade, but long before that date it began to be visited by foreign ships of which nearly 200 put in there between the years 1773 and 1785.

Early in 1784 New York merchants sent the *Empress of China*, captained by John Green, to Canton. This voyage marked the beginning of American

trade with China which, as Professor Scott-Latourette has shown, went on increasing until by 1844, the date of the first treaty between the States and China, it was an important part of the intercourse between the Occident and the Far East.

None of the first American ships that went to China called at Isle de France, but in 1785 Elias Hasket Derby, the famous Salem merchant, sent one of his best ships, the *Grand Turk*, to this island on her return voyage from an unsatisfactory expedition to the Cape. Sailing from Salem on 5 December 1785, under the command of Ebenezer West, the *Grand Turk* arrived at Isle de France on 22 April 1786. There, after her cargo had been sold, she was chartered by a French merchant to carry freight to Canton where she loaded with tea, china and cinnamon, the sale of which in Salem yielded twice more capital than she carried out.

In 1786 and 1787 Derby followed up this first venture with two more ships, the *Three Sisters* and the *Lighthorse*, which both brought him still greater profit. Encouraged by these successes, he decided to invest most of his money in the Isle de France trade and no sooner was the *Grand Turk* back from her first trip than he sent her on a second voyage, in 1787, with his own son, aged barely twenty, as supercargo. After disposing of his shipment at a good price in Isle de France, young Derby sold his ship for more than twice its real value in Port Louis, and bought two ships almost as large with which he proceeded to India, procured a rich cargo of Indian goods and returned to Salem at the end of 1790, having scored a big success.

Derby then increased his fleet and soon had more than half a dozen ships plying regularly between Salem and Port Louis. Out of 151 eastern voyages made by Salem vessels between 1786 and 1800, and recorded by James Duncan Phillips, 22 were made by ships owned by Derby, and the Derby expeditions represent over one-tenth of all the American ships that called at Isle de France during those years.

Other Salem merchants who traded with Isle de France before its annexation by the British were George Crowninshield and Sons, William Orne and John Norris, Jonathan Peele, William Gray and Simon Forester. Not fewer than three Crowninshields and three Norrises visited the island at various dates before 1810, but perhaps the most famous Salem captain connected with Isle de France was Richard Cleveland about whom more will be said further on.

After Salem the next American port to send ships to Isle de France was Boston, whose first messenger, the *Peacock*, arrived in Port Louis on 25 March 1787. Foremost among Boston merchants who traded with Isle de France were the Jacksons and the Lees, while Boston captains of some

fame who called there included Amasa Delano, Robert Forbes, Osborn Howes, and Trelawny's legendary corsair-hero De Ruyter alias De Witt.

Then came Baltimore with a first voyage in 1789, soon followed by many more.

Philadelphia followed close upon it in the same year and soon controlled about one-third of the investment in East India voyages. The most important figure of Philadelphia's oriental trade was Stephen Girard who, from 1798, had an agent in Isle de France named Martin Bickham whose correspondence with Girard is preserved in the Girard College, Pennsylvania.

Fifth came New York, whose ships made their first appearance in Isle de France in 1790.

The *rapports de mer* made by shipmasters to the Admiralty Court of Isle de France, now preserved in the Mauritius Archives, show that 87 American ships altogether came from 1786 to 1793. Most of these made successful trips. Fourteen suffered minor damages from bad weather and only two were wrecked.

During those early years American traders had to compete in Isle de France with traders from Denmark, Hamburg and Genoa mainly. The Danes were the first in the field. They had a consular representative in the island long before the Americans appointed one, and were to remain until 1800 the chief rivals of merchants from the States in those regions, though they never succeeded in outshining them.

After 1793 there came a lull due to the following causes. When news was received of the outbreak of war between England and France the Colonial Assembly, which governed the island since 1790, was in the dark concerning the policy to be adopted towards neutral ships. But in August, having learnt that during the previous month the British had seized French goods on board a Danish ship at Madras, it decided to retaliate by confiscating enemy property found on all neutral ships calling at Port Louis. All American ships that arrived about that time were consequently embargoed.

Soon, however, the island found itself divided over that issue, most of the Port Louis traders declaring against the embargo, while the Jacobins urged a stern policy, their attitude being apparently motivated by distrust of English-speaking foreigners whom they suspected of having dealings with the enemy. But the American captains explained that, though they might look like Englishmen, their sympathies were all for the French Republic, being themselves members of a republic, and finally managed to win over to their side General Malartic, the governor, and Admiral St Felix the naval C.-in-C., and early in 1794 the embargo was raised.

Only two American freighters, the *Union* and the *Cleopatra*, whose

captains tried to evade the embargo, had their cargo confiscated after much litigation in March 1794; a decision which, incidentally, when appealed against in France, was subsequently quashed by the *Conseil des Prises* in April 1801.

The war, which cut away Isle de France from her motherland, soon produced an acute shortage of essential commodities in the colony. From Madagascar and the Cape few supplies could be obtained at that time. So the only two American ships that came in 1794 had their cargo requisitioned by the Colonial Assembly, in spite of loud protests from their captains and from American residents in the island.

In the circumstances it became imperative for Americans to have an official representative on the spot if trade relations with Isle de France were to be maintained. On 29 May 1794 Congress commissioned William Macarty who had gone to Isle de France some years before as commercial agent, to act as Consul. On 25 November his commission was registered and on 12 April 1795 he was solemnly received in the Assembly 'accompanied by a large number of his countrymen', according to the record of that ceremony. Patriotic speeches were delivered by both Macarty and the President of the Assembly, the flags of France and of the States were 'united under the bonnet of Liberty', and the Americans were hailed as fellow-republicans.

In 1795 only five American ships came, but, as soon as the news that friendly relations had been re-established reached America, traders in Salem, Boston, Philadelphia and New York began fitting out again expeditions for Isle de France. The years 1796-8 were peak years, with a yearly average of about 40 arrivals.

At about the same time privateering, too, reached a peak in Isle de France which was then bidding fair to become a 'mighty atom', capable of inflicting heavy damage on British shipping. From April 1794 to July 1797 no fewer than 71 prize-ships, mainly British, were brought in by Port Louis privateers. So American captains had no difficulty in exchanging the much needed supplies they brought for eastern goods captured on British Company ships. Most of the articles which they normally could have obtained only from India or China were plentiful in the island, and in those days trade with Isle de France drew American vessels far more than did the British ports of India and Canton.

A passage from William Milburn's *Oriental Commerce* may be quoted in this connexion: 'So numerous and valuable were the prizes taken, and carried into the Isle of France, that the markets were overstocked with the manufactures and staple commodities of the British possessions in India; and American vessels frequently resorted thither to procure them on terms

more favourable than they could have obtained in Calcutta.' According to the same authority the value of British captures made by Isle de France privateers for 1793-1803 amounted to £2,500,000.

American-built ships also found favour with the island privateers and some were bought at a good price to be turned into corsair-ships, while the glamour and profits of privateering lured not a few American seamen into enlisting under the tricolor.

American ships also brought sometimes French emigrants fleeing from the Revolution who had sought refuge in the States or whom they picked up at Bordeaux where they not infrequently called on the way to Isle de France. Passenger movements in the opposite direction were not very important, as the island authorities did not easily grant permission to the settlers to leave the colony.

All relations between France and her colonial possessions in the Indian Ocean having then practically ceased, the people of Isle de France had to rely only upon neutral ships for information as to what was going on in the rest of the world and especially in the mother-country.

All American shipmasters were therefore minutely questioned by the local authorities and had to give detailed reports, on arrival, to both the Admiralty Court and the Municipality of Port Louis. The movements of any British ships they might have met or heard about on the way were carefully noted and the information was passed on to the corsair captains who also used to subsidize informers from neutral countries for intelligence on British shipping.

British authorities in India were quite aware of all this but, on the whole, few of the American ships engaged in the Isle de France trade were molested by British corsairs, the policy of Great Britain being then to conciliate rather than alienate Americans. Since 1788 orders had been issued that America should be treated in the Indian ports as the most favoured nation, and in 1794 Jay's treaty opened Indian trade to Americans. This was to prevent them trading instead with the French and Dutch settlements, but, so far as Isle de France was concerned this object was not very well achieved.

Jay's treaty led to strained relations between France and the United States but in Isle de France it caused little sensation, as the colony had dissented from the views of the home government concerning slavery and was by 1796 in a state of open rebellion against the Convention after expelling its delegates. Threatened by both the French government and the British, the settlers could ill afford to alienate the Americans by enforcing the enactments that were issued in France to counter-check Jay's treaty, so these received no application in the colony.

On the other hand, when business was thriving, they felt they might 'squeeze' Americans a bit. In August 1797 they decided to raise import duties and set up, for the first time, a properly regulated Customs office. This measure elicited vehement protests from Jacob Lewis who had then just replaced Macarty as American consul (his commission is dated 1 June 1797 and was registered on 22 February 1798) and for some time custom duties caused much bickering between the local authorities and the Americans, but otherwise relations remained friendly until 21 April 1799 when news of the so-called quasi-war between the United States and France was received.

This caused at first some perplexity in Isle de France. Though rebellious against the Convention, the local authorities could not ignore the fact that Americans had now become enemies of France. To do this would amount to an act of treason far more serious than the refusal to obey the Convention's orders with regard to slavery. So on 5 May 1799 the Assembly ordered the seizure of any American ships that might call at Port Louis and issued similar instructions to the privateers. Consul Lewis was then absent, but his deputy, vice-consul Wilt, immediately wrote to the Assembly to say he was informed that the quarrel between France and the States had been settled and to apply for a repeal of the order of seizure. None the less, General Malartic endorsed the policy of the Assembly in a proclamation of 25 June 1799.

Shortly afterwards, however, Malartic received the Directoire's decree of 16 August 1798 putting an end to the embargo on American ships and that of 31 July enacting severe measures to repress piratical raids upon neutral commerce by French privateers in the West Indies. He then issued, on 29 August 1799, a proclamation repealing the previous one and instructing Isle de France privateers not to stop American ships unless they were letters-of-marque. Some privateers, feeling they were being thus deprived of an easy prey, at first protested, but finally obeyed. Similar instructions were again issued on 5 September 1799 and, except for one fight between the *Clarisse*, captained by Surcouf, the most famous of Isle de France corsairs, and the American ships *Louisia* and *Mercury* in Indian waters on 4 January 1800, it does not seem that collisions occurred between French and American seamen in the Indian Ocean during the quasi-war. As for American residents in Isle de France there is no evidence that they were in any way ill treated.

American traders were not less anxious than Isle de France ones to restore business as usual. On their representations Congress appointed on 3 August 1799 a special agent named Samuel Cooper to go to the island and arrange a private agreement with the local authorities tending to that

purpose. Cooper arrived at the end of December 1799 and his proposals were received with sympathy. On 22 January 1800 a draft covenant was adopted and the next day Malartic himself, together with the President and two members of the Assembly, left for Réunion to get the Réunion authorities to sign it, too. By the time Cooper returned to the States, however, the Convention of 30 September 1800 put an end to the quasi-war, and whereas only eight American ships had called at Isle de France in 1799–1800, 19 arrivals were recorded in 1801, 46 in 1802 and from then on American trade with the island again assumed an upward trend.

The year 1800 was also marked by the visit of Richard Cleveland which is particularly worth recording because he is one of the most famous American merchant navigators and also because he wrote an account of his activities in Isle de France.

Cleveland's first connexion with that island dates from 1792 when he visited it at the age of 18 on board one of Derby's ships. The object of his second visit was to buy prize goods or ships. He arrived on 14 May 1800 in a small boat from Calcutta flying the Danish flag, and was surprised to learn that though America was then at war with France there was no need for him to pass himself off as a Dane, especially as he looked 'more like a Chee-chee', so one Frenchman candidly remarked to him.

He found that the few American residents, who included that extraordinary figure, William Shaler, were quite free and that there was no real hostility towards his countrymen, though they were reproached with ingratitude towards France and partiality for the English. Shortly after his arrival, however, the receipt of a copy of a Boston paper containing harsh comments on some Isle de France merchants engaged in privateering caused feelings to run high and led to a duel between a Frenchman and one of the American residents, which fortunately had no fatal issue.

Cleveland met many of the important people of the island, including Surcouf and Malartic of whom he speaks appreciatively. Regarding Malartic, however, he reports a most incredible story which was probably told him as a joke: that Malartic had, some time before his arrival, issued a declaration of war against the United States. No such document is to be found in the Mauritius Archives.

Cleveland's transactions at the Isle de France were not very successful. When he arrived sales of prize goods were just finished and privateers were on the point of sailing for another cruise, so he had to wait for several months for more prizes to come in. In the meantime he went to Réunion where he found that the inhabitants were not prepared to sell their coffee on his terms. Back in Isle de France he managed to sell his little boat at a handsome price and purchased a ship which he sent to Calcutta for account of one

of his partners there, but he failed to secure one of Surcouf's most valuable captures, the Company's extra ship *Armenia*, though he bid 27,450 dollars for her, and he finally departed on 21 March 1801 very disappointed and somewhat incensed against the merchants of Isle de France.

In 1803 trade was just as brisk as in 1802, in spite of the yellow fever epidemic which then raged in North America. Isle de France had been often plagued by epidemics, small-pox especially, of which the last outbreak dated from 1792. So when information about yellow fever was received in April 1803 the Assembly issued several enactments to prevent its introduction by American ships, and even revived a law made during the last small-pox epidemic enacting that any shipmaster found guilty of false or incomplete declarations about the disease would be liable to capital punishment. These precautions proved effective and Isle de France was spared.

At the end of 1803 an important change took place in the government of the island. After coming to power Napoleon sent one of his generals named Decaen to put an end to the republican system and to set up a new form of administration modelled on that of the Old Régime. As he agreed to forget the past and to maintain slavery, his envoy was well received and so, after enjoying a short spell of self-government, the settlers of Isle de France now passed under a kind of benevolent dictatorship which was maintained until the British conquest.

Decaen arrived in September 1803 and a few days afterwards (6 October 1803) received the credentials of the new American consul, William Buchanan, whose commission was first issued on 9 July 1801, during the recess of the Senate, and confirmed on 26 January 1802. Buchanan was a popular figure in Isle de France, having married in a family of island merchants. He was to remain in office until 1816 and seems to have carried on well with the new administration, though General Decaen was a difficult man to get on with.

During Decaen's government American trade with the island reached its most flourishing period with 91 arrivals in 1804 and 98 in 1805, that is, an average of about two ships a week. The years 1806 and 1807 were also busy years, 48 and 43 ships being recorded for each, that is, about as many as came during the previous peak period in 1796-98.

According to the records in the Mauritius Archives, American voyages to Isle de France from 1804 to 1807 represented more than half of the commerce carried out by neutral ships with the island. The decline began in 1808 only and continued during the last years of Decaen's government.

The peace of Amiens was but a short truce in the long struggle between England and France. When Decaen arrived hostilities had just been resumed and once more Isle de France privateers sallied out to prey on

British East Indian commerce, even more successfully, for some years at any rate, than during the wars of the Revolution. From 1803 to 1810, 167 prizes were brought in. So, American traders found plenty to buy while the supplies they brought were most welcome, as again the island found itself cut off from France, owing to strict blockade of the French coasts by the British navy.

British blockade of Isle de France itself did not interfere much with this trade, as it was never very strict before 1808. The real causes of the decline were twofold. The first was the very abundance of goods available for sale which caused a slump in the market. This is evidenced by accounts from various sources. The second was another deterioration of the relations between France and the United States which began about 1807 and reached its culmination with the Bayonne proclamation of 17 April 1808 ordering the confiscation of all American ships in French ports.

Unlike Malartic and the leaders of the former Assembly, Decaen was not a man to question the validity of orders from the home government. Even before matters came to a head between France and the States he caused in 1803 and 1807 two American ships, the *Despatch* and the *Alcione*, to be confiscated for contravening the terms of the convention of 30 September 1800. Six more were seized, on his instructions, between 1800 and 1810. All these were declared lawful captures by the *Commission des prises* which he had set up for this purpose, and whose decisions were reversed by the *Conseil des Prises* in France in one case only, that of the *Despatch*.

On the other hand, if Edward Trelawny's *Adventures of a Younger Son* may be relied upon, it would appear that Decaen showed special favour to at least one American, even during the quarrel between France and the States. This was the legendary De Ruyter, to identify whom several attempts have been made, all in vain.

It is not proposed to repeat them here, but this much may be said: so far searches in the Mauritius Archives have brought to light no evidence regarding the existence of any person that might fit Trelawny's account, nor, indeed, regarding Trelawny's own connexion with Isle de France between 1807 and 1810. Yet, considering that much of the material in these archives is still *terra incognita*, it is quite possible that something may be found some day.

However, though De Ruyter may be just a fictitious character, there did live in Isle de France in those days an American seaman almost as fascinating as Trelawny's hero. He is William Shaler who has already been mentioned *à propos* Cleveland's visit.

The son of a privateer of the American Revolution and himself a sea captain with a fine record, Shaler was a character in whom De Ruyter

would have recognized a twin brother, if one may judge from Cleveland's portrait of him: 'a man of rare intellectual power, and of such unflinching courage, determined will, and kingly presence, as seemed to adapt him morally and physically to a leading position among his fellow-men.'

Had he still been in Isle de France when Trelawny visited that place it could reasonably be suggested that he might have served as a model for De Ruyter, but it is known that he left with Cleveland in March 1801 never to return, though he was sailing in the Pacific in 1808. But then, the dates and extent of Trelawny's own wanderings about the same time are still uncertain.

To return now to factual history, the records in the Mauritius Archives show that commercial relations between the States and Isle de France practically came to a stop in 1809-10, when only ten American ships arrived, of which number six were brought in as prizes by French privateers.

Those last years of his government were difficult and trying for Decaen. In spite of repeated appeals, no assistance came from France, the blockade had considerably reduced the activities of the privateers, the Cape, Seychelles and Rodriguez were in British hands, and neutral ships were making themselves scarce.

By 1810 he was prepared to welcome any neutrals, in spite of Napoleon's orders, provided they brought some relief to the situation. This is evidenced by one of his despatches to his superior, the Minister of Marine, dated 27 June 1810, reporting the admission into the harbour of a ship flying American colours but actually chartered at Bristol: 'I hope', he wrote, 'Your Excellency will not disapprove of my taking no action in this case, because, in our present predicament, we must welcome whatever is brought to us, wherever it may come from, once we are assured that only business is meant.'

On 10 May 1810 the first of a series of preliminary attacks was launched by the British blockading forces against Isle de France, and it is interesting to note that its objective was to wrest from French hands the American prize ship *Ocean*, from Philadelphia, whom her captors had run into the Baie du Jacotet, on the south coast, to escape British cruisers. The British landing party that tried to secure or, at least, destroy her was driven back, and her cargo worth about 100,000 Spanish dollars was safely brought ashore, under the personal supervision of Decaen who immediately proceeded to the spot to direct operations.

After two more setbacks, however, the British finally succeeded in invading and conquering Isle de France, which surrendered on 3 December 1810.

Could it only have held out a little longer its subsequent destinies might have been different, for in 1812 America was at war with England and it is not unreasonable to suppose that privateers and merchantmen from the States would then have flocked to Isle de France and that they might have reversed the scales, just as during the Revolution the American contribution had enabled the island to defy at once England and France.

Before concluding this survey a few words may be said on subsequent relations between America and British Mauritius.

Cleveland's narrative, which was first published in 1843, states that they practically ceased in 1810. This is not quite true.

The Anglo-American war of 1812-15 following close upon the conquest, prevented any revival of commercial intercourse with the States during the early years of British rule, but between 1818 and 1823 American colours were seen again in numbers in Port Louis harbour, after which ships from the United States came only sporadically until 1858-70 when there was another revival. So it seems that American trade with Mauritius did not really cease until after the opening of the Suez Canal which diverted the main stream of East Indian shipping away from that island. It should be noted, however, that the number of American arrivals recorded after 1810 for any one year never exceeded 36. This was the highest figure, reached in 1863.

From 1816 when Girard's agent in Mauritius, Martin Bickham, succeeded Buchanan as consul, the United States were continuously represented in Mauritius until 1911, when the American consulate was closed. The most remarkable of these American representatives in the nineteenth century was Nicolas Pike (1866-73), author of *Subtropical Rambles in the Land of the Aphanapteryx*, which is still a standard work of reference on Mauritius.

The number of American residents which amounted to 22 at the time of the conquest rose to 75 in 1871, after which it declined until it fell to only five in 1931. The last census enumeration made in 1944 records no Americans at all.

The chief centre of interest for American businessmen in the South Indian Ocean now is Madagascar which, it will be remembered, was the first land in those regions to attract their forebears in the seventeenth century.

[The author of the foregoing article is Mr A. Toussaint, B.A., Ph.D., Archivist of Port-Louis, and custodian of the Mauritius Archives. Ed. M.M.]

NOTES

TWO SHIPS FROM SIXTEENTH-CENTURY COINS

These two gold coins will probably be unfamiliar to members of the S.N.R.; certainly they have never been reproduced or discussed in the *M.M.*, and even numismatists do not know much about them. Each of these coins (both of which are in the British Museum) is known from only a single specimen.

The first (Pl. 4(a)), bearing the types of a Scottish gold angel of James IV (1488-1514), is struck upon a thick piece of metal weighing 491 grains, i.e. the weight of more than six angels. The general opinion among numismatists is that it represents the trial design for a coinage which was never put into circulation. Its economic importance, which need not be stressed here, is that it indicates an attempt by the Scottish mint to follow an English weight-standard and style. It is inferred from documentary evidence (Scottish Acts of Parliament) that this idea was soon abandoned in favour of a coinage of French style (the *écu* or 'Scottish crown').

The obverse of this Scottish angel trial-piece shows the Archangel Michael killing the dragon (Devil), a normal design taken from contemporary English coins. The reverse bears a religious legend, SALVATOR IN HOC SIGNO VICTORI and shows a three-masted ship with its main-mast formed as a cross bearing the Scottish shield. This is flanked by the initial I (acobus) and the numeral 4.

Although this vessel is unrealistic, a close examination reveals some interesting features. She is obviously a carvel-built carrack of late fifteenth-century type with high bow and sterncastles. The castles each have a row of typically sixteenth-century 'horse-shoe' gun-ports and on the forecastle there is a row of shields (or possibly guns) below these. All three masts have fighting tops, that at the main being full of javelins. The rudder is indicated, while a slight projection from the bow suggests a figurehead.

The coin does not contribute anything important to our knowledge of sixteenth-century shipping, but it is of historical interest. It was produced sometime between 1489 and 1514, at a period in which the Scottish navy was at its zenith. James IV's fleet included the *Great Michael* built in 1511 and sold to France in 1514. It would be wrong to assume that the vessel on the angel is intended to represent the *Great Michael*, but there are undoubtedly points of resemblance between it and the modern model of that ship made from contemporary evidence (illustrated in F. C. Bowen's *From Carrack to Clipper*, Pl. 5). The *Great Michael* would of course be appropriate to a coin which bears The Archangel's effigy on the obverse.

The second coin (Pl. 4(b)) is more interesting. It is also a pattern piece, for Edward VI's gold angel, and was produced between 1547 and about 1550. I do not know exactly when. Like the Scottish pattern this English piece is thick and heavy, weighing 472 grains (it has therefore been called a 'Six angel piece') and the obverse is similar, though the Archangel carries an English shield and the inscription is that normally used on English angels: PER CRUCEM TUAM SALVA NOS XPE (Christe) RED (emptor). The ship is completely different from those on earlier coins, and far more realistic. She is clearly a carrack (or to use a more contemporary term, great-ship) mounting six heavy guns on a broadside. These are correctly shown in oblong lidless ports. The secondary armament in her upper works is represented by a double row of round ports in the forecastle and a single row below the *pavise* aft. A gun is also shown in her stern.

The *pavise* is clearly drawn as a row of shields ornamented with the St George's cross exactly like those shown in the plan of Calais of 1541 (see *M.M.* for April 1949, Pl. 2(a)).

The rigging is elaborate and looks fairly convincing, but a close study of details suggests that the artist did not quite know what he was doing. Lifts and braces are there but few of the leads are correct; the fore back-stays are set up properly though they are behind instead of in front of the fore-course. They are led through a group of blocks to the main-stay, the crow-feet being particularly clear. Other features are the presence of two fighting tops on the main-mast and a square mizzen topsail, details which agree well with Anthony's drawing of the *Henri Grâce à Dieu*

(1545). The ship flies three flags, two of which are streamers, while the third is a square banner. Unfortunately, none of them show any design.

The figures on deck and in the rigging are quite out of proportion, but they help to give the coin an individuality and sense of movement which other ship-types lack. The only concession to the conventions of coin design is the heraldic shield on the ship's hull. This is a most animated scene, giving the impression of a ship straining at her anchors in a fresh breeze. The attitudes of her crew suggest that she is preparing to sail. I cannot help thinking that it is a sketch made from life.

In concluding this note I should like to call attention to the fact that coin-evidence is hardly ever drawn upon in discussing Tudor naval architecture. Plenty of useful information has been extracted from medieval nobles, but we cannot say the same of Henry VIII's 'George Noble', of a long series of angels including the two coins just described, or of Mary I's gold ryal and Elizabeth I's ryal issued in 1584. Not all of these pieces have anything positive to tell us, but we can trace in them as a whole the transition from carrack to great-ship and then to the galleons which fought the Armada. They can and ought to be used to supplement other evidence when considering the influence of these developments on British naval history.

It should be noted that the photographs are taken from plaster casts of the coins, not from originals.

J. D. A. T.

A PICTURE OF THE 'ROYAL GEORGE OF 1756'

In 1773 George III commissioned a series of perspective paintings which were to represent in two views one example from each class of His Majesty's ships. The work of constructing the perspectives from the Navy Board plans was divided between Joseph Williams who drew the stern views and John Binmer who drew the bow views. Joseph Marshall painted all the pictures. The task was completed on 25 August 1775, and the series of 13 pairs¹ (including the *Royal George*) now hangs in the Science Museum, South Kensington.

In March 1942 Christies sold a picture which they catalogued as a 'model of an old hulk on panel by J. Marshall, 1779. 29 in. by 45 in.'. After a closer inspection, the 'hulk' turned out to be the *Royal George* of tragic fame. Designed by Sir Thomas Slade under the Establishment of 1745, she was launched at Woolwich in 1756. In 1759 she was Hawke's flagship in the action of Quiberon Bay, and in 1782 off Spithead she went down 'with all her crew complete'.

The picture shows the bow view of a model on a table which forms an angle of not quite 45 degrees with the picture plane. In the background one can just make out a semicircular alcove or bay, on the walls of which hang three pictures: in the right-hand one the stern of a ship in action is faintly visible, in the one on the left it is just possible to make out the bows and foremast of another vessel, whilst the topsails of a third appear in the centre, above the waist of the model. The table on which the model is placed is richly carved and bears the inscription 'Royal George/1st rate 100 guns/ 850 men' on a plaque in the centre. The work is signed in the left-hand bottom corner 'J. Binmer D.' and on the other side 'J. Marshall P' with the date 1779 underneath.

The names of the artists as well as the manner in which the ship is represented, as a model hull standing in perspective on a table, recalls the series of paintings alluded to above, and indeed a comparison of this picture with its counter-part in South Kensington shows that the two correspond in all major respects. Apart from the similarity of the more obvious features like the figureheads, entry ports and the placing of the channels above the upper deck guns, both versions agree in the arrangement of the dead eyes, a detail not without importance.

Such similarities might lead one to suppose that the 1779 picture is a copy of the earlier one, but this does not appear to be the case. Not only is there a radical difference in the treatment

¹ Originally intended to be 15; it is uncertain whether two specialized types were not omitted from the series. Eleven pairs were presented in 1864 by H.M. Queen Victoria. Science Museum Catalogue, pp. 46-7.



(a)



(b)

(a) JAMES IV OF SCOTLAND. PATTERN GOLD ANGEL, c. 1488-1514. (b) EDWARD VI.
PATTERN GOLD ANGEL, c. 1547-50

Enlarged to 1½ actual size

PLATE 5



PICTURE OF 'THE ROYAL GEORGE' OF 1756' BY J. MARSHALL.

of the background but there are also minor differences in the design of the carvings along the friezes and on the stern. In the earlier copy the table is plain, the background simply black, and the model is made to balance on two columns which take the place of the more elaborate mermaid-like figures in the later version. Moreover, the 1779 picture was painted on wood instead of canvas. The later picture, in fact, has been given an altogether richer treatment. Yet these differences can be accounted for if we assume that in both cases the artists looked back to the same plans for the rendering of the model, but were left free to indulge their fancy with regard to the accessories. This would also explain the differences in the detail of the carvings (which were of course not shown on the plans) and the similarities in respect of the dead-eyes. There are, indeed, two draughts of the *Royal George* in the Museum at Greenwich, one of which appears to show a modified arrangement of the dead-eyes. Since both pictures agree with this modified version, it is reasonable to suppose that this was the plan used.

Further enquiries led to the discovery that the picture under review makes a pair with the 'Royal George of 1756'¹ in the National Maritime Museum. This shows the stern view, and hence, as we may now rightly expect, was drawn by Joseph Williams. That the two pictures make a pair there can be no doubt, since they conform in every respect, including the faded (or unfinished) background.

In the same Museum we find a stern view of the *Enterprise*² also drawn by Joseph Williams and painted by Joseph Marshall in 1779. The background in this case is simpler, merely showing three sculptured figures standing in a bay. The table, on the other hand, is as elaborate as the one illustrated, though the model perches (like the 'earlier' *Royal George*) on two plain pillars. In common with the *Royal George* of the later pair, the painting is on panel, though of slightly smaller dimensions.

Having thus found a pair and a half of a possible second series, the question arose as to whether this later series was ever completed, and by whom it had been commissioned. Two lines of enquiry were open; one was to try and trace back the pedigree of the three pictures, the other was to attack the problem from the opposite end through the collection of material on the lives and works of the artists concerned.

With regard to the artists, it is surprising that such obscure men should have been given a Royal commission. Their names do not appear in the usual works of reference, and the only one who seems to have had any official standing was John Binmer. Beginning as a junior member of Sir John William's staff³ he rose eventually to become first assistant to the Surveyor, with a salary of £400 per annum. On 30 January 1806 he was superannuated and allowed a pension of £300 'in consideration of his long services and ill state of health' which however he did not live long to enjoy, as he died in March of that year.⁴ From his will, in which he mentions his wife and son, it would appear that he had been a man of some property. But as among the effects enumerated, no mention is made of any pictures or drawings, he does not seem to have kept a 'studio'. In the same will he mentions only one change of residence, from the parish of St Dunstan's, Stepney, where he was born, to Mile End. Yet he seems to have been a fairly frequent and extensive traveller on official business⁵ as the long list of claims for travelling expenses shows. Unfortunately, the Admiralty Accounts do not mention for what purpose these journeys were undertaken, but an entry in the Navy Board Minutes for 1774, stating that 'Messrs Adams and Barnard desire that the *Experiment* building by them may be measured. Mr Binmer the surveyor's 2nd assistant to measure her Saturday next', gives an indication of the sort of jobs on which he was probably sent.

Concerning Joseph Marshall, I was able to find only two entries of importance. The first, in the Minutes of the Admiralty Board for 1774, states that 'An imprest of 21 pounds be made out

1 National Maritime Museum, Catalogue, p. 150, No. 4.

2 National Maritime Museum, Catalogue, p. 156, No. 7.

3 Surveyor to the Navy.

4 P.R.O. Admiralty Salary and Pension lists, 1805-7.

5 In 1780, for instance, when he was only earning £230 p.a. he claimed over £100 travelling expenses. P.R.O. Admiralty Treasurer's Account for 1780.

to Mr Marshall for painting two views of the *Barfleur*'. The other, in the Admiralty Treasurer's Accounts for 31 August 1775 was a 'reward' of £210 which one may reasonably assume to represent the payment for the first series. If that is so, then it is of some interest to note that payment was made through the Admiralty Accounts and not, as one might have expected, by the Royal Household.

The only other reference to a Joseph Marshall that I could find was in the Admiralty Order Book to the Yards, March 1783, in which a complaint was entered that a Joseph Marshall 'a noted deserter from ship's books' had been recaptured after having 'run his ship' at Bombay. His captain, Captain Burney of the *Bristol* interceded on his behalf, but we are not told what the fate of Marshall was, except 'that it be ordered that the run be taken off him'.

From the muster books of the *Bristol* we learn that Joseph Marshall was rated Able Seaman and that, like so many others, he had been pressed from the merchant service. Apart from the similarity of the name, however, there is nothing to suggest that he is the Joseph Marshall in question. Yet the dates do not exclude the possibility, and there is nothing inherently unlikely in a marine painter having also been a practical seaman, as has, indeed, often been the case before and since.

Williams is perhaps the most obscure of the trio. The only records I could trace with respect to him were some bi-annual 'rewards' of £39 each for the years 1773, 1775 and 1780. Yet he was the man, according to the Science Museum Catalogue, who was chosen to exhibit the original pair of perspectives to His Majesty.

Unable to proceed much further along those lines, I obtained even less out of the pedigrees of the three pictures. The Greenwich *Royal George* was presented to the Royal Naval Museum, Greenwich, in 1897 by a Mr W. G. Porter of Croydon. Enquiries revealed little beyond that he was probably a greengrocer whose connexions with Croydon were brief. The bow view of the *Royal George* can be traced back to an antique dealer, since deceased, and the *Enterprise* is catalogued as coming from the Caird Collection, but no further records are available.

The central problem, as to whether the second series was ever completed or not, and by whom it was commissioned, remains unsolved. No pictures by Marshall can be found in the Royal Collection and no payments to the artists could be traced in the Naval Treasurer's accounts for the years 1779-80. The 'second series' was probably a private venture by someone who had seen and liked the series of 1775. The presentation of 1897 shows that if the series ever existed, it had been scattered by that date. Parts of it may still rest undiscovered in private hands, and the histories of the three pictures discussed would make this appear most probable.

I must end on this speculative note. But I hope that I have been successful in collating some information about three now almost forgotten marine artists, and that the presenting of the problem, even without a solution, may not be without interest.

M. WITT

OSUNA'S 'Q-SHIPS'

It is hard to believe that ships of the type illustrated in the *M.M.* for August 1952 would have had any chance of reaching the centre of Venice without arousing suspicion. At a distance they might look like ordinary sailing merchantmen, but the outriggers for the oars would very soon have shown that they were nothing of the sort. In the same way a sailing yacht with an outboard motor might deceive an observer far off, but would have no chance of being allowed to start with it in a race.

No doubt Osuna did consider building vessels of this kind and in all probability he meant to use them against the Venetians, though it must be remembered that the original purpose of his semi-private navy had been to fight the 'Turks', but I feel that the suggestion of 'mystery' must have arisen in the imagination of the Venetian spies and that the design was simply one of many attempts to produce a hybrid capable of acting either with sailing or rowing companions.

R. C. ANDERSON

SPANISH 'Q-SHIPS' RIG, 1619

With reference to the *M.M.*, August 1952, p. 179. The pseudo-galleass is noted as having galleon-rig, and the text infers that Venetian (and other) galleasses wore only lateens. It may be interesting, though perhaps hardly conclusive, to note that one of the celebrated House of Lords tapestries by Vroom depicted a galleass with square lower- and top-sails on foremast and mainmast and the customary lateen on the mizzen. (The Armada galleasses were, of course, set forth from Naples.)

JOHN BENNELL

THE FIGHTING SHIP FROM 1860 TO 1890

With reference to Dr de Courcy Ireland's comments on Admiral Ballard's article (*M.M.*, August 1952, p. 229) the French claim for the *Redoubtable* being the first steel battleship cannot be substantiated. Steel was used for her frames, interior fittings, etc., but her outer hull plating was of iron. The first French armoured ship built entirely of steel seems to have been the *Vauban* launched in 1882. Our first all-steel battleship was the *Edinburgh* laid down in March 1879.

As regards the displacement of the *Pedr Veliky*, there was quite a wide choice. Brassey used to list her as 8749 tons; the Admiralty *European Armoured Ships* gave her as 9340 tons; and Jane credited her with 9665 tons. As she was some 43 ft. longer than the *Devastation* (9330 tons) with the same beam and draught the higher figure is probably correct, remembering that she was commenced as a low freeboard *Devastation* and later changed to a *Dreadnought*.

The biggest navies about 1890 were those of Great Britain, France, Russia, Germany, Italy, Austria and Turkey, with Chile well down in the list of 'also rans'.

From Admiral Ballard's description one might think that the *Italia* or *Amiral Baudin* were finer fighting ships than the *Trafalgar*. Far from it. Admiral Fitzgerald said that he would have taken on the *Italia* in the old *Hercules* and put her out of action without much risk of being hit once; and when alternative designs for the *Collingwood* were being considered Barnaby submitted 'an improved *Italia*' which the Board ridiculed. The 75-ton guns in the *Amiral Baudin* were too short for cross-deck firing and made poor shooting over most arcs of bearing; the unprotected main-deck battery would have become a shambles; and the 21 in. belt was too shallow to provide armoured stability. She would have turned turtle from flooding above the belt as quickly as did her successor the *Neptune* as a target ship. The *Trafalgar*, a real armour-clad, powerfully armed, and able to make her 16 knots in the Mediterranean despite low freeboard, had no rival up the Straits in her day.

I always like Lord George Hamilton's summing up of the monster gun in his statement on the 1890-91 Estimates:

'While it is held fitting and proper that the Navy should have a few 110-ton guns, it is intimated that their extended use is no longer thought desirable. These monsters are treated with a sort of gingerly consideration, which leaves the impression that they are privately regarded as a highly respectable blunder. Many things are left unsaid which might very well be said about them, but as the Admiralty seem desirous to revert quietly to more manageable and less costly weapons, it is no longer necessary to criticise them severely.'

O.P.

THREE JACOBEAN WARSHIPS

In the *M.M.* for August 1952, Mr Arrowsmith, discussing the initials 'H.R.' shown on two ships in the foreground of Vroom's painting of the arrival of the *Prince Royal* at Flushing, questions the interpretation of the cypher 'H.P.' on the *Prince Royal* as referring to the Prince of Wales; if any support for this interpretation be needed it can be found in the frequent references to 'the Prince's letters' in the contemporary accounts of painting and carving (*Autobiography of Phineas Pett*, N.R.S., Vol. 11). Further, the letters 'I.R.' on the stern of the *Convertine* are sufficiently definite to dispose of the suggestion that 'H.R.' might have been intended.

Before speculating further about the meaning of the initials 'H.R.' it might be useful to consider how far Vroom's painting should be accepted as evidence of their use on Jacobean ships. By

comparison with other sources of information, there is little doubt that the *Prince Royal* may be accepted as a reasonably accurate portrait, but in the case of the two other ships reproduced in the *M.M.* for April 1951, we are not so fortunate. The strange composition of the Royal Arms is in itself sufficient to cast some doubt on the artist's powers of observation; the masts also present some difficulty as both the *Anne Royal* and the *Red Lion* had two mizzens in 1611 (Pepysian MSS. No. 2911). The *Repulse* had a single mizzen but the flags do not support her identification with the ship reproduced as the frontispiece (*M.M.*, April 1951), as according to Phineas Pett the Vice-Admiral's flag was in the *Anne Royal* (N.R.S. Vol. II, p. 106).

It is probable that Vroom made a detailed drawing of the *Prince Royal* in 1613, with perhaps only rough sketches of the remaining ships. This could account for discrepancies in the painting made some ten years later!

Reverting to the problem of the initials, it is possible that the *Anne Royal* bore the letters 'A.R.', that Vroom noted this, and afterwards mistook a hurriedly drawn 'A' for an 'H', which he then employed without discrimination. This may be far-fetched, but it is more credible than the suggestion that James I adopted a cypher based on an otherwise unknown pet name.

L. R. RUST

CAPTAIN COOK'S WIFE

Mr Christopher Lloyd (*M.M.*, August 1952, pp. 230-1) communicates a reference by John Constable in June 1833 to the story that Cook 'stood sponsor for' his wife Elizabeth Batts at her christening, and asks for a contemporary source. This somewhat absurd fable was current before Constable's time and evidently reflected popular gossip. It normally included the two elements of Constable's version: (a) Cook was his wife's godfather, and (b) at her christening he undertook to marry her. In this form it is found in print, for instance, in the Biographical Memoir prefixed to the abridged version of the three voyages published by J. Limbird in 1820 (reprinted 1824); and no doubt in earlier texts which have eluded me. It is, however, not in the biographies by Kippis (1788), who had his information about Cook's marriage from Mrs Cook, and by Young (1836). Whether it is possible or even profitable to trace the anecdote to its source seems doubtful, and we may agree with Kitson who writes in his life of Cook (p. 61): 'The origin of this fable it is impossible to trace.'

It is more to the point to realize that the tale was authoritatively scotched as early as 1836. In the preface to *An Historical Account of the Circumnavigation of the Globe... from the voyage of Magellan to the death of Cook* (1836; reprinted 1837, 1845, 1852, 1859) the publishers acknowledge 'some valuable information' received from relatives of Cook's family, notably 'the late Mr Isaac Cragg-Smith'. The anonymous author, citing the story (p. 286, footnote), writes: 'This tale, as we were assured by the late Mr Isaac Cragg-Smith, is without the slightest foundation; the two families were at the time [of Elizabeth Batts's christening] unacquainted, the one residing in the suburbs of the metropolis, the other in Yorkshire, where Cook, then only thirteen years old, was serving his apprenticeship.'

There can be no question of the authenticity of this information. Isaac Cragg-Smith was nephew and heir of Admiral Isaac Smith, Cook's shipmate and the cousin of Mrs Cook, with whom the Admiral lived for many years before his death on 2 July 1831 (*Gentleman's Magazine*, Vol. CI, p. 178). Isaac Cragg 'assumed the name of Smith' on his uncle's death (*Gentleman's Magazine*, Vol. CI, p. 573) but survived him by only five months, dying on 7 December 1831. He was plainly in a position to tell the truth about Mrs Cook's family connexions, and it may be assumed that the author of the *Historical Account* drew his facts from this source in 1831.

The *Historical Account* was published by Oliver and Boyd as Vol. 21 of the Edinburgh Cabinet Library. Mr George Naish suggests to me that it was for this series, and not for 'Murray's Cabinet Library' (as stated by Smales), that the Rev. George Young's *Life and Voyages of Captain James Cook* was commissioned, although later withdrawn and published separately because of Mr Murray's objection that advocacy of Christian missions 'would be out of place in such a series of volumes as the Cabinet Library' (Gideon Smales, *Whitby Authors*, 1867, p. 68). Mr Naish's conjecture is supported by two facts: (a) no series with the title Murray's Cabinet

Library was ever published; and (b) the 'Mr Murray' of Smales's reference is almost certainly not John Murray the publisher but Hugh Murray the geographer, who wrote seven volumes on exploration in the Edinburgh Cabinet Library and may well have acted as geographical editor of the series.

R. A. SKELTON

THE *ARK ROYAL*

In reply to Mr L. R. Rust's note, *M.M.* May 1952, I know of no evidence for a full complement of battlements and turrets on the *Ark Royal* other than the Canterbury painting, which since we hear nothing of castellated upperworks on any other great Elizabethan ship, seems likely to represent this one. If at a later re-building, these adornments of state were cleared away for practical reasons from all but the poop, this would explain the *Arca Rale* of Visscher, and also why other Dutch artists who wished to engrave a recognizable *Ark* insisted on the turrets which served as poop-lanterns. It is only supposition, but to me it seems reasonable.

R.M.N.

BALLAHOU

It has been suggested that the origin of this word may possibly derive from the small Scottish town of Ballachulish Ferry in Argyllshire, which is known to its inhabitants as 'Ballachu', pronounced as 'Ballahou'. There was apparently at one time a small boat-building yard there (it may possibly still be in existence), which would perhaps turn out small vessels of a distinctive rig. As the Scots migrated to the West Indies in large numbers, the design of such vessels might have been brought out here and adapted to fit local conditions.

CLINTON V. BLACK

THE DATING OF 'THE DUKE OF YORK'S SUPPLEMENTARY ORDERS, 1672'

With reference to the Note on this subject in the *M.M.* for August 1952, I make the following comments:

The 'Additional Instructions to be observed in the next engagement' were dated 18 July (O.S.) 1666, and were first published by Professor H. T. Colenbrander in his *Bescheiden uit vreemde archieven omrent de groote Nederlandsche Zeeoorlogen, 1652-1676*, Vol. 1, pp. 414-15 (The Hague, 1919).¹ From the wording of Prince Rupert's covering note, dated 'On board the *Royal Charles* in the Sledway' it would seem that their innovation was due to the King himself. I have a contemporary copy of these instructions, written by James Hayes, secretary to Prince Rupert, with the autograph signatures of the Prince and the Duke of Albemarle. It is endorsed 'The severall commanders of the fleet are to take speciall care that they keepe theyre lyne, and upon payne of death that they fire not over any of our owne shippes.' The wording is the same as that printed by Colenbrander, save only that the last line of the first paragraph reads 'standing along with the same Tacks aboard as the enemy does' instead of 'standing all along....' Colenbrander has changed the dates to N.S. The copy in my possession is addressed to 'John Kempthorne Esqr Reare Admirall of the Blew squadron to be conmunicated to the severall shippes of his Division'.

There can be no doubt, therefore, that these instructions were issued as a result of the experience gained in the Four Days' Fight of June 1666 and before St James's Fight (25 July/4 August 1666).

C. R. BOXER

¹ From the original in the P.R.O., S.P. Dom. Charles II. Vol. clxiv, No. 72.

QUERIES

1. SIR ISAAC COFFIN. In connexion with Admiral Sir Isaac Coffin, Bt., who, as is well known, founded a technical school in Nantucket, the President of the Nantucket Historical Association, Mr Edouard A. Stackpole, writes as follows, 'One of the stories about the Admiral I am trying to authenticate is that wonderful episode of the young whaling master who defied the officer of a boarding party from a British frigate, and was liberated when the commanding officer, Coffin, learned that the Nantucket whaleman was also named Coffin.'

I wonder whether any of our members can cope with this happy little story.

L. MCCORMICK-GOODHART

2. SHIPS IN HAVRE, 1562. Oppenheim states (*Administration of the Royal Navy*, p. 120) 'There were also eleven small French ships taken in the port of Havre in 1562, and carried on the navy list till 1564, after which they disappear. They may have been returned on the conclusion of peace in April: there was some discussion to that effect.' Can anyone throw any light on the name, and particulars of these vessels?

JOHN BENNELL

3. ELIZABETHAN SHIP-LOSSES. Felix Riesenbergs, in his book *Cape Horn* (published in 1941) mentions two Spanish brothers, Bartolomé and Gonzalo de Nodal, who went to sea in 1590 as midshipmen in the Royal Fleet of the Ocean Sea under Admiral Don Alonso Bazan, and were known to have sailed round the Horn in 1618 or 1619. My chief interest in these two, however is in connexion with their privateering exploits in the Channel: Gonzalo captured two ships and sank an English vessel, taking his prizes into Ferrol, while on other occasions he captured an English Queen's ship off The Lizard, and later two more in the Channel. His brother Bartolomé was, it seems, scarcely less successful, and between them they accounted for ships of the English, Dutch, French corsairs, Turks and Moors at various times.

Now I have always understood that the English had suffered very little loss to their fleets, naval or mercantile, during the reign of Elizabeth: Oppenheim, for instance, states that only two vessels are known to have been lost by stress of weather, the *Greyhound* in 1562, and the *Lion's Whelp* in 1591. As to capture or destruction by enemy action, I can only call to mind the loss of the *Revenge*, Sir Richard Hawkins's *Dainty*, and one pinnace which, according to Charles Kingsley's *Westward Ho!* (usually very accurate and precise in such matters), was lost during the Armada battles.

Perhaps one of our readers can supply confirmation of the Nodal brothers' captures, complete with ship-names, dates and places, or any other information bearing on English losses of the period.

JOHN BENNELL

4. THE KAISER'S WRITING DESK. I wonder whether any reader can give information as to the whereabouts of this desk. It was presented to the Kaiser by Queen Victoria, and was reputed to have been made from wood taken from the *Victory*, as well as the ink-stand that went with it. The ink-stand had a semicircle of flags in enamel showing the famous signal 'England expects . . .' I have seen a newspaper report to the effect that a former mayor of Margate, Mr A. L. Adutt, had a photograph of the desk.

A. L. W. SHARP

5. A SPANISH ARMADA FIGUREHEAD? In the 1947 reprint of the late Arthur Mee's *Kent* in 'The King's England' series I find the following statement (p. 45, article on Biddenden): 'On one of the old Tudor houses, close by the church, is a painted figurehead from a ship of the Spanish Armada.' Just that casual remark without any further information about a relic which must surely be unique, if it is indeed what Mr Mee says it is in his book. Mr Carr Laughton makes no mention of it in his *Old Ship Figureheads and Sterns*; indeed from his remarks on Spanish figureheads on p. 100, I think he probably did not know of it. Possibly some member resident in the district could throw light on the authenticity or otherwise of this figurehead?

K. F.

ANSWERS

Contributors to *QUERIES and ANSWERS*, which continue to be a most popular feature of the Journal, are requested to observe that no Answer to a Query can be published until two issues later, the reason being that the Printer requires material to be sent in about four months ahead of publication, namely a month before the preceding issue is in the hands of readers. It is regretted that the delay is unavoidable.

88. (1911). SHANTY. *Seven Years of a Sailor's Life* by George E. Clark (1867) has an earlier use of this word than the *N.E.D.* (p. 165): 'The anchor came to the bow with the chanty of "Oh, Riley, Oh," and "Carry me long".'

Other forms used in this book are *chanting* (p. 22), *chanty gang* (p. 41), and *chanty men* (p. 44), the last two terms referring to Zanzibar natives hired to unload at that port. J. L.

4. (1951). A CLASSICAL SHIP FOUND IN 1907. The wood-eating molluscs and crustaceans of warm seas being what they are, no wreck or other wooden structure can survive longer than a few decades unless it happens to become buried in mud or sand before being attacked by shipworm and gribble. Leather, cordage, and sails are destroyed in the same way, and ferrous metals, except in such massive forms as cannon, will last only a few centuries before succumbing to corrosion. After this, only bronze fastenings and fittings, and any glass, ceramic, or stone objects in the cargo or outfit would remain to mark the spot. J. L.

28. (1951.) EARLY GUN DRILL. Although I am sure there must be manuals of old naval gun drill in existence somewhere, I have never come across one and the only account I have seen is in an old encyclopaedia I bought some years ago when writing a book set in the Nelson period. Published in 1802, this work, *The English Encyclopaedia*, seems from internal evidence to have been compiled several years earlier, so I think its account can be taken as the practice in the late 1780's and the 1790's.

I quote the relative part of the article (which, of course, covers military exercise, horse exercise, etc., as well as naval) in full:

'EXERCISE, in the royal navy, is the preparatory practice of managing the guns and small arms in order to make the ship's crew perfectly skilled therein, so as to direct its execution successfully in the time of battle. The exercise of the great guns was, till lately, very complicated and abounding with superfluities, in our navy as well as all others. The following method was then successfully introduced by an officer of distinguished abilities.

'1. Silence. 2. Cast loose your guns. 3. Level your guns. 4. Take out your tompions. 5. Run out your guns. 6. Prime. 7. Point your guns. 8. Fire. 9. Sponge your guns. 10. Load with cartridge. 11. Shot your guns. 12. Put in your tompions. 13. House your guns. 14. Secure your guns.

'Upon beat-to-arms (every body having immediately repaired to their quarters) the midshipman commanding a number of guns is to see that they are not without any necessary article, as (at every gun) a sponge, powder-horn with its priming wires, and a sufficient quantity of powder, crow, hand-spike, bed, quoins, train-tackle, &c., sending without delay for a supply of any thing that may be missing; and for the greater certainty of not overlooking any deficiency, he is to give strict orders to each captain under him to make the like examination at his respective gun, and to take care that every requisite is in a serviceable condition, which he is to repeat accordingly. And (besides the other advantages of this regulation) for the still more certain and speedy account being taken upon these occasions, the midshipman is to give each man his charge at quarters (as expressed in the form of the monthly report), who is to search for his particular implements and, not finding them, is immediately to acquaint his captain that, upon his report to the midshipman, they may be replaced.

'The man who takes care of the powder is to place himself on the opposite side of the deck from that of the engagement, except when fighting upon both sides at once, when he is to be amidship. He is not to suffer any other man to take a cartridge from him but he who is appointed to serve the gun with that article, either in the time of a real engagement or at exercise. Lanterns are not to be brought to quarters in the night until the midshipman gives his orders for so doing to the person he charges with that article.'

The English Encyclopaedia describes a linstock ('linstock') thus:

'LINTSTOCK, in military affairs, a wooden staff about three feet long, having a sharp point in one end and a sort of fork or crotch on the other; the latter of which serves to contain a lighted match, and by the former the linstock is occasionally stuck in the ground, or in the deck of a ship during an engagement. It is very frequently used in small vessels, where there is commonly one fixed between every two guns, by which the match is always kept dry, and ready for firing.'

Smyth in his *Sailor's Word-Book* says: 'It gave way to the less dangerous match-tub, and since that to gun-locks, friction tubes, &c.' The match was very loosely twisted rope steeped in a solution of nitre and said to burn one inch an hour. Smyth described match-tubs as 'conical tubs about 18 inches in height, which have a sunken head perforated with holes, to admit the slow match to hang with the lighted end downwards'.

The vent was the touch-hole, and to 'serve', 'stop', or 'cover' it meant to cover it with the thumb after the piece was fired. This prevented smoke and fumes from coming through the vent into the gun-decks (quite enough blew back through the port!) and also helped smother any smouldering residue of cartridge-bag which might remain in the piece and touch off the new charge of powder as it was being rammed home.

It was when Anson was at the Admiralty that gun-locks were first officially used in the Royal Navy, although they had been tried from time to time by individual captains ever since their introduction for small-arms. Their adaptation to heavy guns, however, proved unexpectedly difficult and they were far less reliable than upon small-arms. One problem was the handling of the priming powder when using locks. In those experimentally fitted to Hawke's ships during the Seven Years War, tin priming tubes were used, and these blew out of the vents when the guns fired, becoming dangerous missiles. In addition, mechanical unreliability in the actual locks caused many misfires and the old matches were kept burning at hand for emergency use, but in fact they seem to have been used habitually.

The really successful gun-lock did not appear until the late 1770's, when Captain Sir Charles Douglas turned his alert, mechanically minded brain upon improving the Navy's gunnery. He used quill priming-tubes, a surprisingly simple solution for a problem which had baffled previous inventors, and improved the mechanism of the locks themselves into an efficiency equal to those of small-arms. H.M.S. *Duke* had over a hundred of Douglas's locks fitted to her guns and carronades, and at the Battle of the Saints she had only one failure, although the same flints were used throughout the action. This record was equalled by the *Formidable*, in which ship Douglas himself was serving as Rodney's flag-captain.

Rate of fire was said to be three times where it had before been two. There were no failures with the quill priming-tubes, and time was saved by the ease and speed with which the Douglas locks were recocked and a new quill pushed down into the vent instead of the old method of trickling fine powder from a powder-horn into the vent. Perhaps an even greater time-saver was Douglas's introduction of flannel-ended cartridges. These meant that a gun need not be wormed after every discharge, and at the Saints none of the *Formidable*'s guns was wormed until the new cartridges were expended and the old type, which caused much fouling, had to be used.

Other innovations of Sir Charles Douglas were steel springs in the breeching ropes to take the shock of recoil, and a system of graduated wedges to put in rear of the carriage trucks to reduce the run-back of the guns. By using weights on the train-tackles he claimed to have gained the equal to the strength of two extra men on the tackles; and lastly he increased the traverse of the guns so that it became possible, when at a suitably close range, to concentrate a converging cone of fire upon one area of an opposing ship.

Although Douglas's system of springs and weights does not seem ever to have become common

in the Navy, his other innovations were very largely responsible for the deadly effects wrought by British gunnery in the great wars he did not live to see, for he died, a rear-admiral of the Blue, four months before the fall of the Bastille ushered in the French Revolution. His younger son, Sir Howard Douglas, became a general and one of the British Army's leading artillerists, writing a number of books on military and naval gunnery and *Naval Warfare Under Steam*.

Any sort of accuracy of aim with smooth-bore muzzle-loaders was only possible at the very shortest of ranges; the windage allowed was excessive, and the necessarily frequent de-rusting of the round shot made it still greater and also destroyed the evenness of the curves of the spheres, so that the shot wobbled the length of the bore upon discharge, taking their spin from the last place they chanced to touch before leaving the muzzle. Their course was thus inevitably unpredictable, for their drift depended upon their spin, and this varied with every round. There were at one time experiments with small-arms with slightly bent bores so that the last point of contact was always the same and the spin constant; but the severe wear caused even in small-arms made this method (an attempted equivalent of rifling) of little practical use, although it very highly increased the accuracy of aim. For heavy guns it was, naturally, even less practical.

When using chain, bar, or grape shot the accuracy of guns became even less than with round shot, owing to the varying resistance offered by their shapes as they screamed and twirled through the air. Even the most accurate of sights would have been futile when the flight of shot was so erratic.

The preservation of gunpowder was an expert's job, and the gunner had to turn the powder over regularly at set intervals to keep the ingredients correctly mixed.

KENNETH FENWICK

1. (1952.) DAVIT. English usage in the fifteenth century is given by M. Oppenheim, *Naval Accounts and Inventories of the Reign of Henry VII*, N.R.S., 1896, pp. 49, 192. In the inventory of the *Marie of the Toure*, 11 October 1485 we find:

Daviottes in the ffore castell j

and in that of the *Soueraigne*, 24 October 1495:

Long Devettes with ii shyvers of brasse	j
Shorte Devettes ych of theym with a shever of	
yron	ij
Devettes stondyng at the loufflawes oon	
asterborde an other a latheborde ych of	
theym with a Shever of yron	ij

W. E. MAY

2. (1952.) THE BITTER END. The answers in August 1952 M.M. indicate that this term is obsolete in British usage except in the figurative sense. The original meaning is still current in America, however, as exemplified on p. 430 of the *Bluejackets' Manual* (1945) or p. 113 of Department of the Army Technical Manual, 55-370, *Operation of Small Boats and Harbor Craft* (1950). The term is now also applied to the inboard end of a wire wound around a drum, such as is used for deep-sea sounding.

J.L.

3. (1952.) CRUISER. Expressions such as 'one Ship of the Fifth Rate, and two Ships of the Sixth Rate, and four armed Sloops, constantly to cruize from off the North Foreland to the Isle of Wight' occur in three Acts for the more effectual preventing the Exportation of Wool. These are Anno 7th & 8th Gul. III, Cap. 28; Anno 10th & 11th Gul. III, Cap. 10; and Anno 5th Geo. II, Cap. 21. The word 'cruiser' does not itself appear in any of these acts, but in *A Collection of all such Statutes as in any way relate to the Admiralty, &c*, 1742, it appears in a marginal sub-heading to the second act and in the index. In the Corbett Papers, Vol. III, p. 33, the word 'cruizer' appears in connexion with an act of 1719.

W. E. MAY

13. (1952.) VENETIAN MANUSCRIPTS. Dr R. C. Anderson suggested that the first of the two MSS. described by Signor G. B. Rubin de Cervin might be in the British Museum, and my colleague, Mr Godfrey Davis, was kind enough to check through the accessions list and relevant

sale catalogues. He informs me that *L'Architettura navale di Stefano de Zuanne de Michel* turned up again at a sale held at Sotheby's on 14 January 1913, lot 742. It is now in the British Museum with Accession No. B.M. Add. MSS. 38655. The whereabouts of the second MS., *Libro di piante, etc.*, are quite unknown. It appears in a Sotheby sale catalogue of 16 December 1903, as lot 833, and there is some reason for supposing that the lot was withdrawn. It was certainly not included in the Sotheby sale of 28 November 1927, or the Hodgson of 26 March 1929.

R. H. D.

18. (1952.) EARLY SHIP LANTERNS. The following extracts from the Navy Board Minutes for 1705 (National Maritime Museum, SER/52) may be of interest as showing that glass was in use at that date.

12th April 1705

'M^r Staines Lre of y^e 27 March past read—Send a Warrant to Chatham Officers to make out a Bill for the New Fashioned Stone Ground Glass Lanthernes at the Prices of their Valuation.

24th April 1705

'Cap^t Pudners Lre of the 22th read—hasten away from Deptford the Glass for his Stern & Gallery Lights & know whether the former was not broake for want of opening the Windows when he Scaled his Guns.'

W. E. MAY

19. (1952.) NAVAL SIXPENCES. These were the compulsory contributions from the pay of seamen of the Royal Navy and of marines towards the upkeep of Greenwich Hospital. A deduction of 6d. per man per month was made for this purpose; the month seems to have been a period of four weeks, so that the annual contribution per man would be 6s. 6d. Hence for 50,000 men the Hospital should have received £16,250. The Treasurer of the Navy was responsible for making the deductions from pay and sending the correct amount to the Hospital, but he was often in arrear; Captain Hood, as Treasurer of the Hospital, asked Mr Ibbetson the secretary to bring the matter before the Board of Directors, so that they might approach the Navy Board.

A similar compulsory contribution was made from the pay of merchant seamen, but this was collected separately. These were by no means the only sources of income of the Hospital, but in 1777 they produced nearly half of it. In November 1777 Captain Hood estimated the Naval sixpences for the following year at over £14,000 and the Merchant sixpences at £11,822. His estimate of the total income for the year was over £55,000, the other main items being the receipts from the Derwentwater Estates (£17,000), dividends on Government Stock (£7715) and the returns from the Lighthouses on the North and South Forelands (£3,010). At that time there were 2169 In-Pensioners in the Hospital (costing £49,040 a year) and 790 Out-Pensioners, who received in all £4050 a year.

Naturally the Naval sixpences produced more in war than in peace and the Merchant sixpences more in peace than in war. The Naval sixpences continued to be paid to the Hospital till 1829, when Parliament relieved it of the cost of out-pensions. The Merchant sixpences were paid till 1834.

N. MACLEOD

20. (1952.) 'DOWN FUNNEL: UP SCREW'. A diagram showing the raising and lowering mechanism for a lifting propeller is to be found facing p. 2 in Nares *Seamanship*, 4th, 5th and 6th editions. I do not remember that the operation of connecting or disconnecting the propeller ever presented any particular difficulty. The raising and lowering of the funnel by chains and pulley blocks was a simple operation. The whole evolution was carried out in a matter of a few minutes.

A. MACDERMOTT

21. (1952.) SHIPS' COMPLEMENTS. The usual crew was based roughly on one man per 500 lb., e.g. 14 men to a long 32-pr. The writer is correct in supposing that only one side was manned, and in close action both sides had to be worked short-handed. Gun crews were also drawn upon for boarders and sail-trimmers. There is a more detailed account of the drill in *Naval Gunnery* by H. Garbett, 1897, a work that should not prove very inaccessible.

J. D. MOODY

Derrick's *Memoirs... of the Royal Navy* gives the establishment of men and guns proposed for one 1st-Rate, nine 2nd-Rates and twenty 3rd-Rates in 1677, as follows:

Men	1st-Rate 100 Guns	2nd. 90	3rd. 70
8 to each Cannon	208		
6 ditto Demi-Cannon		156	156
5 ditto Culverin	140	130	
4 ditto 12-pounder			104
3 ditto Saker	132	108	42
2 ditto 3-pounder	4	4	8
The remainder of the Complements to consist of	296	262	160
	780	660	470

When these vessels were built (between 1678 and 1685) the 1st-Rate (*Britannia*) and all the 2nd-Rates were given complements in agreement with the above totals, but the 3rd-Rates apparently received only 460 men each.

JOHN BENNELL

22. (1952.) SCURVY. Perhaps the reason for the apparent neglect in not supplying lime-juice before 1795 was the difficulty of deciding which of the competing cures and preventatives used at that time were the best, or even genuine. The attached list has been made from my occasional notes, which are insufficient to justify more than guessing.

In 1702 the Navy Board tested two 'chemical medecines' afloat. Forty years later Anson seems to have carried no anti-scorbutics on his famous voyage (with Chelsea pensioners for men, what were his stores probably like?). In 1767 portable soup, mustard, vinegar, pickled cabbage, and malt for making wort were supplied in the *Dolphin* for her Pacific voyage; someone seems to have been taking notice, for all were regarded as anti-scorbutics.

Five years later, in 1772, Captain Cook had all the *Dolphin*'s supplies and in addition sour-crust and rob of oranges and lemons. This rob is my first mention of a citrus juice supplied from home. Oranges and lemons were supplied in the round earlier. Much later Nelson was concerned over the keeping qualities of lemons in cases (always tricky things to pack so as to keep), and perhaps even more interested in onions, maybe for their amenity value.

Surgeon Ives in 1758 made half a hogshead of orange and lemon juice preserved with spirits, at Madagascar, for the use of his ship.

The question seems to me to be: when was any sort of citrus juice first supplied from home, and when (and why) did lime-juice take precedence and replace all others to such an extent that scurvy and lime-juice are coupled in the mind and the mention of one suggests the other?

I hesitate to mention the yarn current in the last war, that lime-juice has no anti-scorbutic effect, for I don't know the facts: I only know that sailors refused to drink it. It would be odd if Englishmen had earned their American sobriquet under false pretences.

S. H. S. MOXLY

1591	Thomas Cavendish	Scurvy-grass
1602	James Lancaster	Lemon juice
1622	Sir Richard Hawkins	Sour oranges, lemons, Dr Stevens's water, distilled water
1701	Sergison Papers	Chemical salts of lemon
1741	Anson's Voyage	Grass, fruits of an acid kind, other vegetable products, The pill and drops of Dr Ward
1746	Privateer <i>Prince Frederick</i>	Washed ship with vinegar; green and fresh provisions, turtle
1758	Edward Ives, Surgeon	Orange and lemon juice
1759	Admiral Lord Hawke	Bullocks and sheep
1764	Byron's Voyage	Fish and all vegetables

1767	H.M.S. <i>Dolphin</i>	Wine in place of grog, ground wheat with wild celery, cocoa-nuts, scurvy-grass, purslain, portable soup, mustard, vinegar, pickled cabbage, malt made into wort
1772	Captain Cook, second voyage	Sweet wort (made from malt), sour-crust, portable broth, rob of lemons and orange; men in three watches, ship clean and dry between decks, decks aired with fires once or twice a week, decks smoked with gunpowder mixed with vinegar, fire-pot at bottom of the well
1781	Sir Gilbert Blane	Vegetables and fruit, particularly oranges, lemons and limes, wine
1796	Lord Nelson	Lemons (bad in their cases)
1805	Physician to the Fleet	Wholesome wine in place of spirits, fresh beef, vegetables and fruit, abundant and excellent water
1827	Captain Basil Hall	Lemon juice, 'our grand anti-scorbutic'
1836	Richard Henry Dana, <i>Round the Horn</i> , etc.	Scurvy caused by salt provisions, want of cleanliness, grease and laziness. Cured by raw potatoes and onions
1844	Dr John Haines, Physician to the Fleet	Citric acid
1852	Charles Nordhoff, an American	Burying up to the neck in earth
1859	McClintock's voyage to the Arctic in the <i>Fox</i>	Lemon juice, green mustard and cress, sugar, beer, malt beer, venison, ducks, and pickled whale skin

23. (1952.) INFERIOR SHIPS. Mr Ritchie asks why British men-of-war have so often been inferior to their foreign contemporaries. It would be hard to give an answer, but is one necessary? Have our ships actually been so inferior? It is true that in the eighteenth century our ships were usually a good deal smaller than some foreigners of corresponding classes, but is small size necessarily a sign of inferiority? One boxer or wrestler may be smaller than his adversary, but if he wins, surely that proves that he was not the inferior, and that is what usually happened.

No doubt we have had our failures, but other countries have had theirs. The *Rurik* showed up badly when it came to the test of action, and the *Gloire* was very soon put in the shade by the *Warrior*. Surely we led the world for a long time after that. The *Majestic* was for some years the pattern for every navy; while the *Dreadnought* introduced a completely new era in naval architecture. If our ships were so likely to prove failures, it is strange that they should have been so widely copied.

R. C. ANDERSON

24. (1952.) 'TO WARM THE BELL'. This expression would appear to come, by association, from 'warming the glass', namely the half-hour sand-glass by which the sounding of a ship's bell was timed, for there was a belief in the old sailing days that when the glass was warm the sand ran through quicker, thus shortening the watch. Midshipmen on watch were reputed to nurse the glass between their hands, or under their jackets, to stimulate the flow of the sand.

KENNETH FENWICK

26. (1952.) 'MOLGOGGER.' This word is probably derived from the Portuguese 'Malagueta' meaning belaying-pin. In the case of a trawler, where the towing block acts in a similar manner to the molgogger in a tug, the block is called 'Patesca'.

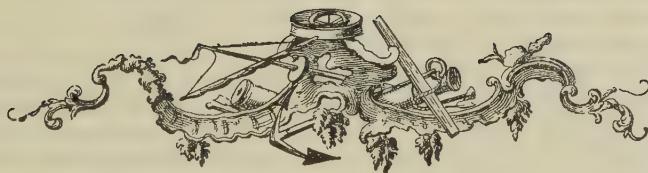
J. GUTHRIE

26. (1952.) 'PODGER'. In engineering practice a 'podger' is a tool used to facilitate the fixing together of component parts by means of bolts or rivets. It consists of a short steel rod shaped with a gradual taper on most of its length, and ending with a point, the other end being blunt and rounded.

In use, the podger is inserted into the bolt holes in the two component parts, and by reason of its tapering form brings the bolt-holes into exact line; this enables the bolts to be slipped in without any difficulty. It has also a use in dismantling, by keeping the parts in position so that the final bolts can be removed without difficulty. Sometimes the podger is made with a spanner head on the blunt end so that it can be used as a spanner when needed.

I fear that I cannot help in the matter of how it obtained the name.

W. A. WOODWARD



REVIEWS

SOME HISTORICAL NOTES ON THE BRIXHAM FISHERIES. By PERCY RUSSELL, F.S.A. Pp. 20. Price 1s.

Mr Percy Russell, the Honorary Curator of the Dartmouth Borough Museum, has compiled some very interesting notes on the Brixham Fisheries, which he read before the Devonshire Association for the Advancement of Science, Literature and Art in June 1951. This paper has now been reprinted from the *Transactions* of the Association, and, as the title suggests, is entirely about the rise and, one regrets, the decline of Brixham as a fishing port. To anyone interested in West Country fishing in general and Brixham in particular, this reprint is well worth the shilling asked for it; the man who is most knowledgeable about this port both from the fishing point of view and historically will surely find something in this pamphlet which will increase his knowledge.

H.O.H.

THE TEA CLIPPERS. By DAVID R. MACGREGOR. Percival Marshall and Co., Ltd. Price 25s.

The author of this book is a member of the Society for Nautical Research and has contributed to *The Mariner's Mirror* on several occasions articles on clippers, though no mention of this is made in the volume under review. Mr MacGregor has written an extremely scholarly book and one that should suit many members of the Society and, by the same token, one that will disappoint some members of the general public; in other words, this is a book for the specialist and not the general reader who is casually interested in sailing ships in general or the Tea Clippers in particular. Although after most of the chapters there is given a short note on the majority of the vessels mentioned or those which were well known at the particular time covered by the individual chapter, this book is in no sense a history of each ship that took part in the tea trade from China during the years 1848-70. What the author has done and done very successfully, is to show how changing conditions altered the design of the ships and even altered the material of which they were made. Owing to the short supply of home-grown timber and the great expense of imported hardwood, iron was tried, and although it was not at first received with favour, gradually the prejudice against it was overcome; in the last decade of the Tea Clippers, the composite-built ship was the most successful. Then the alteration of the Navigation Laws encouraged the designers to get busy and see what improvements they could make. Incidentally, Mr MacGregor has quite a few words to say on that much-discussed schooner the *Scottish Maid* and her influence, or lack of it, on the current tea-clipper design, but whether she was the model for clippers or not, at any rate her builders, Alexander Hall and Sons, were most successful designers of the earlier tea-trade ships. Another factor, which the author stresses, that had great influence on the China Clippers, was the alteration in the method of calculating the tonnage, which came in during the 1850's and 1860's and there are some interesting diagrams of midship sections, which show the differences in hull shape brought about by the new rule. A sidelight on the mentality of the men who designed and the men who owned these ships is given when the author says that Steele in 1863 built the *Taeping* with a stem much more upright than usual, and in consequence a lot of false wood had to be bolted on the stem-head to provide an aesthetic support to the bowsprit and figurehead; it also, perhaps, shows the profits that were made out of the tea trade. But a few years later that was all finished as far as the sailing ship was concerned and these magnificent examples of man's skill in designing vessels that depended on the wind for propulsion were ousted from their proud position and the more reliable but ugly steamer had taken their place. This book is very well illustrated with some good photographs not hitherto published and some well-reproduced lithographs and

paintings, not to mention the very clear drawings of lines and sail-plans copied by the author from original half-models. A good index rounds off a very well-produced and well-written book, which can be thoroughly recommended.

H.O.H.

DAS HAMBURGISCHE CONVOYSCHIFF *WAPPEN VON HAMBURG III.* By HEINRICH REINCKE and BERNHARD SCHULTZE. Hamburg, 1952.

Many readers will remember a very large model in the Royal United Service Institution described as a Hanseatic line-of-battle-ship of 1650. In the course of an article in the *M.M.* for July 1948 I was able to show, thanks to the help of two German correspondents, that this model actually represented a 'convoy-ship' of Hamburg built in 1720 and sold to private owners in 1737.

This being so, it is good to know that, when the R.U.S.I. decided to sell the model, the Hamburg Historical Museum was able to acquire it, and that it is now back in the city from which it was brought to England in 1814.

The present book consists of two sections, the first by Dr Reincke dealing with the history of the ship herself and the second by Mr Schultze describing the model and giving an account of what has had to be done to it in the way of cleaning and restoration after nearly 150 years exposure to the atmosphere of London. Both are extremely thorough; the first has a number of appendices from contemporary documents; the second a series of very clear plans.

R. C. A.

THE FOUNDING OF THE SECOND BRITISH EMPIRE, Vol. I. 1763-1793. By VINCENT HARLOW. Longmans. Price 45s.

News of the first stirrings of the American revolt reached Cook on his way home after discovering New South Wales. Since his voyages made Australasia the legatee of that revolution it has become customary to speak of the new empire in the Indian and Pacific oceans as taking its rise in some mysterious way after an anti-colonial reaction created by the failure of the First Empire in America. Professor Harlow's aim in this, the first of two big volumes, is to show that the break between the First and Second Empires was not complete because they overlapped, both in time and policy.

It was during the period covered by this volume, 'Discovery and Revolution', that the aims of the Second Empire began to be formulated. They were defined by Shelburne in the words 'We prefer trade to colonies.' The colonies were out of favour because they were regarded as a drain on the country's population and because it was feared they would (as in America) become competitors to an expanding economy. What was preferred was a chain of trading factories with naval bases to guard them, and the part of the world to look for them was in the east, not in the west. Professor Harlow therefore begins by describing the search for the Southern Continent and then passes to the attempts made by Cook's rival, Dalrymple, to open up trade in the East Indies. The story of the later missions to China and the establishment of a maritime empire in the Indian Ocean will no doubt appear later; meanwhile it is of great interest to see how the eyes of the government were set on bases like the Cape and Trincomalee much earlier than is usually supposed.

The results of the battle of the Saints and the relief of Gibraltar are given their full value in the lengthy description of the peace negotiations, though the American war itself is omitted. The author's excuse for treating these negotiations in what might appear to be excessive detail is the light they shed on Shelburne's new imperial policy. He is established as the hero of this volume and his ideas were certainly far-reaching: a federal Atlantic union such as we are only beginning to see to-day, and a free trading empire. Similarly 150 pages are devoted to Ireland because that was the scene of the first unsuccessful experiment in 'dominion status'. The relevance of the theme to-day is obvious. 'The First British Empire (in North America and the Caribbean) was never an "Empire" of the traditional type, but rather a hiving-off of "little Westminsters".' Ideas of self-government thereby percolated from the white into the black areas, hence the dual nature of the Commonwealth and Empire we know to-day, in which coloured Dominions have arisen as by-products of British oceanic commerce. The flag, in fact, followed trade, not the other way round.

There is no doubt that this book will become the standard history of the empire in that period. There is a wealth of scholarship in it which utilizes the findings of the latest research and reveals a fine sense of historical perspective in the way domestic and foreign themes are interwoven. This being so it may not be amiss if a few details are corrected in later editions. For example, Dalrymple's book was printed, not published in 1767 (p. 44). Santo was originally named *Australia* not *Australia* (p. 46). Cook was one of the four Captains of Greenwich Hospital, not Master (p. 56). Grenville's despatch written on 14 May reached London on the 21st, so for 'on' read 'of' on p. 255.

CHRISTOPHER LLOYD

THE *JOHN RANDOLPH*, AMERICA'S FIRST COMMERCIALLY SUCCESSFUL IRON STEAMBOAT. By ALEXANDER CROSBY BROWN. Georgia Historical Society, Savannah, U.S.A., 1952. Price 50 cents.

In an earlier brochure 'The sheet iron steamboat *Codorus*' (which I had the pleasure to review in the *M.M.*, April 1951, p. 175), Commander Brown was able to correct a popular misconception in the United States, that the *John Randolph* was America's very first iron-hulled steamboat. This statement was made in the *America Beacon* of 31 July 1834, and is quoted in the above-mentioned review; the memorial bronze plaque at the entrance to the City Hall, Savannah, also serves to perpetuate the error.

The *John Randolph* was, however, the first *commercially successful* iron steamboat in America. The hull plates, of 'the best' British rolled boiler plate iron, were prefabricated by Messrs Laird Bros., at Birkenhead, imported into the United States by Mr G. B. Lamar, of Savannah, and there assembled and riveted by Mr John Cant. The hull, when completed, measured 110 ft. in length, 22 ft. beam, and 8 ft. depth in hold. The bottom and lower strakes were 0.312 in. thick, the upper plates 0.25 in. thick. Her shallow draught of 2.75 ft., about half that for a wooden vessel of the same size, enabled the *John Randolph* to transport the cotton from Augusta down the river to Savannah, even at low-water periods which kept the deeper-draught wooden boats at their moorings. In the American Civil War, the *John Randolph* was enlisted as a Confederate blockade-runner. She made several successful trips, but was sunk off Sullivan's Island, South Carolina, on 20 January 1865.

It is of interest to note that a model of the *John Randolph* was exhibited in 1876 by Messrs Laird Bros at the old South Kensington Museum (which then incorporated the nucleus of the present Science Museum). This model is described in the Catalogue of 1878. It was transferred to Liverpool for the International Exhibition of 1886, and does not reappear in the Catalogue of the South Kensington Museum dated 1899. Reference to the Birkenhead works has failed to locate the model, or even to confirm its existence. It would seem that this prime record of the *John Randolph* has been lost from history; nor has Commander Brown been able to find any authentic representation of the vessel to illustrate his research, despite its thoroughness and the meticulous care with which he has collected and assembled his documentation. The brochure, of 14 pp. text, is reprinted from the *Georgia Historical Quarterly*, Savannah, Vol. xxxvi, No. 1, March 1952. It is certainly the most complete research into the history of this pioneer American iron steamboat, prefabricated in Britain.

H. P. SPRATT

BRITISH FISHING BOATS AND COASTAL CRAFT. PART II. DESCRIPTIVE CATALOGUE AND LIST OF PLANS. Science Museum. Published by Her Majesty's Stationery Office, 1952. Price 3s. 6d.

This publication has been produced by the staff of the Science Museum and Her Majesty's Stationery Office. Seeing who are responsible for its existence it is only to be expected that it is a well got up and authoritative book, also of a moderate price.

The catalogue gives a short account of all the exhibits in the collection illustrating British Fishing Boats and Coastal Craft in the Science Museum. The collection not only comprises fully

rigged models, but half models, pictures and plans. Most of the models are very good and full of detail but some of those fitted with sails, judging by the very clear photographs used as illustrations, look as if these same sails had been cut by very much of an amateur; and a sailmaker of miniatures has to be almost as skilful a craftsman as the man who makes the sails for a real ship. On the other hand some of the sails are excellent, possibly some trick of lighting when the photographs were taken has accentuated any fault that there may be; but it is a pity to spoil a good model with a poorly cut sail even if it was made by the original builder. In a catalogue of such a large number of different types of boats a few mistakes are bound to creep in, but there must be quite a few photographs in existence that show a St Ives lugger with a mizzen topsail set, yet the paragraph about this vessel says a St Ives man never carried one; this is wrong, the mackerel drivers certainly did. Again the Portland larret is said to be extinct; there are quite half a dozen of the four-oared type on Portland beach to-day all in active service. The Billy Boy kept its cutter rig long after the advent of the nineteenth century but the note on this rig implies that for most of the century the typical rig was that of a ketch. The Brixham trawlers are rightly called 'dandy-rigged' but this term was not by any means confined to the Devon port; East Coast men would nearly always call a ketch-rigged vessel dandy-rigged. The term may have originated in Brixham but it very soon spread over England generally. These may not be considered very important errors but they show that one must not lay down the law too firmly when dealing with such matters as ships and boats. Taken by and large the book is good value for money.

It is pleasant to record that due credit is given to our Society for the work done by it through the Coastal Craft Sub-Committee in preserving plans of many now extinct types; thanks to this work the Science Museum can list more than two hundred drawings of the lines of vessels which have now completely disappeared.

H. O. H.

BUSINESS IN GREAT WATERS. THE WAR HISTORY OF THE P. & O. By G. F. KERR. Faber and Faber Ltd. Price 12s. 6d.

'Your vessel *Rawalpindi* is hereby requisitioned for Government service.' This curt telegram was received by the P. & O. Company in London on 24 August 1939 and indicated the outbreak of war. This fine ship, the builder's scale model of which is at present on view in the National Maritime museum, was immediately put in hand for conversion to an armed merchant cruiser. Just four months later, on 23 November, while on duty with the Northern Patrol, she fell in with the German battleships *Scharnhorst* and *Gneisenau*. There could be only one result and Captain Kennedy and most of the crew went down with the vessel with colours flying and one gun, the only one which had not been knocked out, still blazing away at the enemy. The exemplary courage, endurance, and above all, the inspiration, of the officers and men in this action, are typical of all those of the sea services in all the Seven Seas.

Sir William Currie, in a foreword, hopes 'that the new generation will read this book and be encouraged to emulate their fathers, for without the spirit of service and love of the sea which they showed we cannot survive.... We shall not forget.' Neither should we forget the inherent treachery, cruelty, and utter disregard of all the laws of civilization of our enemies. We must ever keep watch if the freedom of the seas, and thereby the freedom of the individual, is to be preserved.

The P. & O. Company's ships were prominent in all theatres of the war on the seas. Memories will be refreshed of the fall of Singapore when 'Scheme Betty' was put into operation, including the adventures of the two coastal vessels *Bulan* and *Mata Hari*, the *Mata Hari* being destined to meet such a tragic end after surviving so many hair-breadth escapes.

The evacuation of Dunkirk, the landings in North Africa, Sicily and France are all included in this epic story.

The illustrations are grim reminders of the vulnerability of the armed merchantman at war. There is, too, a panorama view of Table Bay harbour showing the largest troopship convoy ever to visit the Southern Hemisphere, April 1941. In the appendices are the Roll of Honour, Honours and Awards, and the P. & O. Group Fleet.

B.L.

THE ANNUAL DOG WATCH. Published by the Shiplovers' Society of Victoria for the Shiplovers' Societies of Australia. Price 4s. 6d.

This excellent little annual is now on its ninth voyage, and its 96 pages are full of interesting and historical matter relating to the sea and ships. There is an article on 'Shipboard Hygiene in the 'Forties'; the 'Berthing of a Windjammer'; and 'Sailors' Homes and Boarding Houses', in which there are amusing references to the kindly but sometimes crafty mothering of the 'lodgers' by Mrs Corkfender, so named because of the peculiarity of her contours, and the ingenious enterprises of Paddy West which will revive memories of those who served in sailing ships.

There are useful records in the articles on 'The Fate of the Loch Ness', the last of the well-known fleet of sailing ships of Aitken Lilburn's Loch Line; 'The Wreck of the Derry Castle' in 1878 and the sufferings of the crew marooned on a barren island in the Auckland group, and the finding of the figurehead of the *Spirit of the Dawn* are reminiscent of Robinson Crusoe, and recall vividly the hazards of sea life in the days of sail.

Extracts from the Journal of Abel Jans Tasman in 1642, and an episode in the 1914-18 War, remind us that the sea and the elements do not change, neither does the spirit of the men who 'go down to the sea in ships, that do business in great waters'. B. L.

SIGNAL CARD B. R. 232(2). London: Her Majesty's Stationery Office. (1952.) Price 1s. 3d. net.

Signal Cards have been in use in the Royal Navy at least since 1908, and they can generally be bought by the public, so there has seldom been much secrecy as to the composition of the signal flags actually employed. (Perhaps it should be explained that 'B.R.' indicates a 'Book of Reference' in contradistinction to an 'O.U.' which is for 'Official Use' only.) The 1944 edition was the last to portray the range of Royal Navy signal flags and pendants which had gradually grown up since 1790, containing such well-known pieces as the blue with yellow saltire, and the blue-white-red horizontal, both of which appeared three times in Nelson's historic signal. In the *M.M.* for January 1947 there is an explanation as to how the signal bunting finally reached the figure of 86 pieces just before the last war. Then during the operations in the Pacific, British men-of-war had to carry the United States signal flags in order to perform joint tasks. Naturally, after the war a solution had to be found for dealing with this enormous quantity of signal symbols, and at the end of 1948 something in the nature of a bombshell exploded and there was such a scrapping and altering of the old flags and their titles that only twelve remained as they were in 1939. At the same time seventeen flags were brought in from the United States navy, and the total of all flags and pendants was reduced to seventy-eight, a fairly satisfactory result.

Now with the 1952 Card we find further alterations, and as the total number of pieces has been brought down to seventy, they may be regarded as good in that respect. They are said to be owing to N.A.T.O. requirements. The actual alterations to the 'Special' flags and pendants, however, have hit the English code extremely hard. The very handsome red-and-white quartered pendant, known as the Interrogative for 150 years, the equally old Affirmative (red with white cross), and the blue-and-white striped Preparative, have been consigned to the limbo for ever, we suppose. Partly to replace the ten English abolitions two entirely new designs have been introduced, the necessity for this being not in the least apparent since those three such excellent designs had stood the test of time. One of the new pieces is good, the other surely the most badly designed flag for use at sea we have ever beheld. The new 'pennants' are called 'Desig', white-blue-white vertical, and 'Preparative', yellow-green-yellow, horizontal. The only ancient English symbol to retain its name is the familiar Church pendant; meanwhile the very old white-and-red Answering pendant has been switched to 'Interrogative', and the old blue-and-yellow chequered Numeral pendant has turned into 'Negative'.

So far as one object of our Society is concerned, research into the language and custom of the sea, the renunciation by the Royal Navy of the old word 'pendant' in favour of 'pennant', is perhaps the most significant feature of the new code. This seems to be a final surrender after years of assault directed against one of our English prerogatives.

DEEP-WATER SAIL. By HAROLD A. UNDERHILL. Glasgow: Brown, Son and Ferguson, Ltd. Price 42s. net.

So much of the modern publishing output is necessarily of an ephemeral nature that the appearance of a work likely to be of an enduring character is something to be acclaimed. This is particularly so when closer examination reveals it to be the product of an intense enthusiasm and of years of painstaking accumulation of material; and such is this quite monumental work by an author already widely known as an expert on the technical aspects of sailing-ship rig.

In this latest volume Mr Underhill has set out to portray the various forms and types of deep-sea sailing vessels of the nineteenth and twentieth centuries (the title, incidentally, hardly makes this historical limitation clear), conducting, as he explains in the preface, an 'anatomical study' of the ships themselves rather than an analysis of their exploits. Thus, although the reader will discover a number of noteworthy ship-names in the index he must not expect to find each vessel dealt with exhaustively as an individual, for even so substantial a volume as this can only make use of a portion of the material available. Mr Underhill, however, does claim that the examples he has selected comprise a good representative collection of sailing-ship types, and the claim is justified.

The plan he has followed has been to outline broadly the progress of sailing-ship development and design from the early nineteenth century until the effective close of the sailing era in our own times; and then, within that framework, to examine in detail various types of vessel, from the smallest ocean-going fore-and-aft to the biggest full-rigger or multi-masted schooner or barque. A separate chapter is devoted to the inevitable 'oddities', while an instructive final chapter which model-builders in particular will welcome, treats of deck fittings and other details.

It must at the outset be said unequivocally that the resulting work is a major achievement, providing in accessible form a concise record of valuable and intimate information relating to the sailing-ship which otherwise would soon have become irretrievably lost. Obviously derived primarily from a wealth of first-hand knowledge and of long-term research, conducted sometimes in the ships themselves, sometimes in the forgotten corners of the mould-loft, the shipyard, or the joiner's shop, this is essentially a practical book owing little, if anything, to other works, and in consequence unencumbered with notes or bibliographical references. The style is plain, almost conversational; but though on that account the grammar is at times informal, the author's vitality and directness of purpose will carry all but the pedant unprotestingly past the occasional solecism. Naval readers who share the distaste of the compilers of the admiralty Manual of Seamanship for expressions unbecoming a 'smart seaman' may wonder if it is legitimate in a serious and authoritative work to refer to the Atlantic as 'the Pond'....But it is indeed only such minor points which in this estimable work seem at all open to question.

To raise a matter just a trifle more important: that of spelling; is it not desirable that this, particularly in the case of technical terms, should be standardized? Mr Underhill's *transome* may be a permissible alternative to the *transom* of (*inter alia*) Falconer and the O.E.D., yet it strikes one as odd, especially in a work of this character. Similarly, the sources quoted do not favour a hyphen in such words as *taffrail* and *ratline*. Is not *polacre* more general than *polacc*? *Centered* finds more favour with our friends across the Atlantic than with ourselves. The expression 'showed her metal' is probably not quite what the author meant to convey about the four-masted barquentine *Tacora* when she took a steamer in tow, iron-built though she was!

Some other points of detail requiring revision in any future edition should perhaps be mentioned at this stage. Some obvious misprints include one which suggests that the compositor is more accustomed to topical journalism: 'Jett-headed spanker' for 'Jib-headed spanker' (p. 245). What endless controversy amongst the erudite of generations yet unborn may result from this innocent slip! (Incidentally, could not the author, as he usually does, have offered a definite example of the use of this somewhat unusual feature?) There is some repetitive matter on pp. 36-7 relating to the working of a windlass; on p. 167 the arc of visibility for bow lights is given as 90° on either side of the ahead direction instead of 112½°, or, as is more usually stated, 10 points; and fairly

comprehensive though the index is, it nevertheless requires a little expansion and correction in some of its references.

The examples which Mr Underhill has used to illustrate types of deep-water sail, range over nearly every class of vessel, East Indiamen, West Indiamen, the 'Blackwall Frigates', fruiters, tea-clippers, and so on. The absence of any reference to sealers and whalers comes as a matter of some surprise, as one would imagine that the particular features of these craft would have been germane to the author's purpose. The Royal Research Ship *Research* is dealt with at some length, though as a specially built vessel and unique in many ways one feels that she might more appropriately have been dealt with under the 'Oddities' than as a truly representative brigantine. The author may be glad to know that the ketch *Irene* did survive the war, and was still afloat, though under repair, at Appledore in 1952.

Ship-modellers and others having recourse to photographs for obtaining or checking dimensions will study with interest the pages devoted by Mr Underhill to 'photographic analysis'. His methods seem an unquestionable advance on those often employed, though some of the underlying reasoning might be clarified a little, as to why, for instance, photographs taken at about 45° are preferred.

The author disposes in an eminently common-sense way of some questions of terminology which are a recurring subject for argument: the definition, for example, of a 'Clipper'; and whether there is any place in our usually accommodating language for that hybrid of doubtful euphony, 'Shipentine'. His opinion on another nice point would have been instructive: when does an auxiliary sailing-vessel become an auxiliary motor-vessel? The query emerges from his reference to the auxiliary (twin-screw) four-masted Tasmanian schooner *Kermandie* which, according to another authority, has now been so cut down in rig as to make it doubtful whether her original classification is still appropriate.

An outstanding feature of this comprehensive work is the number and quality of the illustrations. There are no fewer than a hundred reproductions of photographs and prints, and of some excellent pictures by Mr Underhill himself who, in addition to his other talents, is an accomplished marine artist. Also, as if good measure were not already assured, there are a further hundred folding plates, sail and rigging plans, arrangement drawings and lines of some of the vessels dealt with in the text.

It will be apparent to anyone who has read thus far that such points as have called for any mildly critical comment are at the worst but peccadilloes. The things of more vital moment, the author's wealth of constructional data, his abundance of information in general, pleasingly and palatably presented, appear unimpeachable. It is quite certain that this excellently produced volume will earn for Mr Underhill the gratitude of all those who regret the passing of the sailing-ship and seek to ensure that at least the memory is perpetuated of one of man's noblest creations.

ALAN F. DAKIN

LLOYD'S. By C. E. GOLDING and D. KING-PAGE. New York, Toronto and London: McGraw-Hill Book Co. Inc. 1952. Price \$4.50, and 32s. 6d.

At the last Annual General Meeting our President remarked on the recent large output of books by members of the Society. Well, here is another work of which our member Douglas King-Page takes a half share in authorship. It does not resemble any of those books devoted to the sea referred to by Mr Anderson, for there is nothing like Lloyd's in the whole of the universe.

Lloyd's has for years been associated in the eyes of the layman with maritime affairs, but to-day it happens that the non-marine business is equally as extensive and important as the marine. Nevertheless, the connexion of Lloyd's with the sea is very evident when we consider that the Corporation still issues its daily shipping paper, *Lloyd's List*, which holds the record of being the oldest newspaper in London, that it possesses one of the finest collections of Nelson letters and Nelson silver plate and trophies, and that it has an Intelligence organization for recording the movements of ships in all parts of the world quite unsurpassed by any other.

The book under review is an American publication and is in fact one of the McGraw-Hill series for insurance students, and was originally conceived for use in the University of Columbia. There can be no recriminations therefore on the score of such an important book not being published in England, or as to the use of such Americanisms as 'catalog,' 'setup' and 'colorful'. What does need some explanation, however, is its very excessive price, for the book is more about the level of one costing 18s. or a guinea. The reason is that printing costs in the United States are very much higher than our own.

We cannot pretend that insurance, or even marine insurance, is a great subject for nautical research, since the history of marine insurance is already thoroughly authenticated in books of the past. Nevertheless, if any of our members desire to know something about the obscure modern working of Lloyd's, we have no hesitation in recommending this work of its erudite authors, one of whom is our distinguished and popular member.

[By the time these words are in print, we believe that there will be a fresh English printing of the book which will cost only a guinea.]

GRAVEYARD OF THE ATLANTIC. By DAVID STICK. The University of North Carolina Press. Price \$5.00. (London: Geoffrey Cumberlege. Price 40s. net.)

At the end of the 1890's in any boy's room might be found a book called *Heroes of the Goodwin Sands*, which, as the name suggests, was made up of stories of some of the wrecks and rescues that had taken place on that famous death-trap for ships. The volume at present under review might be called an American equivalent of this boy's book except that the *Graveyard of the Atlantic* has been written for grown-ups and not for young people; but it is made up of the same sort of material, stories of shipwreck and the rescue of men from death by drowning. Mr Stick must have put in a great deal of hard work and research before starting to write, and for those people interested in the full history and end of definite ships it must prove an invaluable work. At the end is a list of all the vessels lost in the Graveyard of the Atlantic, which is the coast line of North Carolina, between the years 1815 and 1945 with the exception of 1941; this list gives the rig, the date, the place where the stranding happened and the number of lives lost. The main body of the book is made up of short separate descriptions of some of the more famous or spectacular wrecks and of the rescue or attempted rescue of the people on board the ship. One of the most interesting chapters to readers this side of the Atlantic is the one devoted to the losses during the Civil War, which will give an entirely new viewpoint on that bloody affair to the average man. Another rather striking point is the number of really large schooners that must have been in existence, to judge by those that were wrecked. Though many ships, both sail and steam and of all nationalities, were lost on this treacherous coast, the casualties do not seem unduly high or as heavy as those sustained round the shores of the British Isles in the days when sail predominated; for instance, in the gale of March 1891 no fewer than 49 vessels were totally lost one way or another in the three days, 9th to 11th, on the coasts of this Island, but between the years 1839-61 on the North Carolina shore not more than 85 vessels were listed as being lost, though the author does say that 'there were many more—hundreds probably—about which there is only such sketchy information that they cannot be listed here'. Again 'from the fall of 1899 to the spring of 1918 a total of 108 vessels were totally lost on the North Carolina coast'; not really many compared with 49 in three days. As has been said, to the student of shipwrecks this book will be a welcome addition to his library, a lot of research work having been put into it; it is a pity, therefore, that what is really quite a scholarly book should at times be written in a somewhat light-hearted, slangy style. Some of the words are rather hard on British ears, 'dove' for 'dived' may be good American but it is not good English. Again the frequent use of the word 'crewmen' when the hands or sailors excluding the officers is meant, somewhat grates, though again that may be an excellent equivalent word in the U.S.A. for the lower-deck. It is possible that this kind of writing has been done on purpose to attract the general public, and it is very probable that they will like this book as many

of the accounts of the rescues effected are extremely dramatic and well told, but in the main this is a volume for the historian and student. There is a very good index and some really charming chapter-headings and tail-pieces by Mr Frank Stick. As one expects from a book produced in the U.S.A., the material and get-up are excellent.

H. O. H.

HOGARTH'S PEREGRINATION. Edited by Charles Mitchell. Oxford University Press. (Geoffrey Cumberlege.) 1952.

This is the illustrated diary, in prose and verse, of a tour on foot and by boat, undertaken by the five friends, William Hogarth, John Thornhill, Samuel Scott, William Tothall and Ebenezer Forrest in May 1732. The tour only lasted five days but the party managed to see a good deal of part of Kent in that short while. Many of our members will be interested in the contemporary tales about Rochester, Upnor, Isle of Grain, Sheerness, Queenborough, Minster in Sheppey and Gravesend. The version of Sir Robert Shurland's exploit in swimming his horse out to the Nore, to obtain from the reigning monarch a pardon for ill deeds, differs from the version given in the *Ingoldsby Legends*, which appears to be far more accurate on the subject. The diary assumes that Queen Elizabeth I was the monarch in question, but according to Barham it was Edward I who was on the throne at the relevant time, and this seems far more likely. The manuscript is in the British Museum, and our former associate Mr Charles Mitchell edits it and writes the Introduction.

PUBLICATIONS RECEIVED

PRIMITIVE WATERCRAFT OF ARABIA. By Dr R. LeBARON BOWEN. Reprinted from *The American Neptune*, July 1952. Illustrated.

THE FATE OF KINGSTON'S WARSHIPS. By Professor R. A. PRESTON (Royal Military College, Kingston). Reprinted from *Ontario History*, vol. xliv (1952), no. 3.

Vol. 10 onwards at 10s. 6d. each (postage 5d.). The index will be supplied free to purchasers of a complete volume or sold separately for 2s. each.

Details of back numbers available will be supplied on request. (Published by the Cambridge University Press, 200 Euston Road, London, N.W. 1.)

The following other publications of the Society are at present available for sale:

OCCASIONAL PUBLICATIONS: No. 5, *Lists of Men-of-War, 1650-1700. Part I. English Ships* Compiled by R. C. Anderson. *Part II. French Ships.* Compiled by Pierre Le Conte. *Part III. Swedish Ships.* Compiled by Hj. Borjeson. *Danish-Norwegian Ships.* Compiled by P. Holck. *German Ships.* Compiled by W. Vogeland H. Szymanski. *Part IV. Ships of the United Netherlands.* Compiled by A. Verugdenhil. *Part V. Indexes.* EACH PART 2s. 6d. (POSTAGE 2d.)

REPRINTS: *The Rye River Barges*, by Leopold A. Vidler.

East Cornish Luggers, by H. O. Hill.

The Fishing Luggers of Hastings, Parts I and II (separately), by James Hornell.

The World's First Clipper, by Boyd Cable.

Composite Tea Clipper Cutty Sark, by Commander G. C. Steele, V.C., R.N.

The Monuments in the Church of St Nicholas, Deptford, by John Summerson.

The North Ferriby Boats, by E. V. Wright and C. W. Wright.

The Battle of Trafalgar, by Rear-Admiral A. H. Taylor. Price 7s. 6d.

MARITIME MISCELLANY SERIES, No. 1, *The Van de Veldes*, by W. Voorbeytel Cannenburg.

No. 2, *Piracy*, by Philip Gosse. Price 2s.

No. 3, *The Anchor*, by J. W. van Nouhuys.

No. 4, *Old Maritime Prints*, by A. G. H. Macpherson.

No. 5, *The Timber Problem of the Royal Navy, 1652-1862*, by Robert G. Albion. Price 2s.

No. 6, *The Fighting Ship from 1860 to 1890*, by Admiral G. A. Ballard.

No. 7, *The King's Flags*, by Cecil King.

No. 8, *The History of Maritime Law*, by William Senior. Price 2s.

(Each, price 2s. 6d. except where otherwise stated.)

PLANS: Model-maker's Plans of the *Victory*, 10 plans on 3 sheets from those used in the restoration of 1923-35. (Price 21s.)

Enquiries for any of these should be addressed to The Hon. Secretary, Society for Nautical Research, National Maritime Museum, Greenwich, S.E. 10.

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